N E W S L E T T E R

Volume 1, No. 1 November, 1941

State of California

Department of Natural Resources

DIVISION OF FORESTRY

Sacramento, California

M. B. PRATT, State Forester

FOREWORD

Although the California State Division of Forestry has probably more things of interest to chronicle than the average state forestry organization, yet it has never issued a news letter for the information of the field. Over my desk each month pass the "Wooden Nutmeg" from Connecticut, the "Forest Log" from Oregon, and other news letters from various states that have forestry organizations.

During the past few years the "California Conservationist" offered a medium whereby some information was given concerning State Division of Forestry activities. Unfortunately, this publication is no longer in existence and it is now proposed to enlighten you through a monthly news letter of some of the interesting matters concerning our work.

I am not unaware of the existence of the "grape vine" method of dissemination of news and also realize the "grape vine" can be easily twisted. It will be our aim to issue what may be termed a "grape vine special" in which, as far as possible, all information presented will be highly authentic. This being the case, all members of the State Division of Forestry are invited to contribute items which they think can pass the Board of Censorship.

May you all enjoy your news letter and help to make it truly representative of what I consider one of the oustanding state forestry organizations of the country.

M. B. PRATT, State Forester

FIRE SEASON FOR 1941

Although one thousand more fires occurred, as of October 1, during the present fire season, than that of the corresponding date in 1940, the fire record for 1941 is better than average. Average acreage burned this season per fire is 45.96, as compared with 37.77 for 1940. In 1939, however, the acreage burned per fire was 98.75, almost twice as much as for 1941.

Of the 4735 forest and valley fires combated by the Division of Forestry from January 1 to October 1, 1941, 30.7 percent have been of roadside origin, burning 36,227 acres, or 16.7 percent of the total acreage burned.

Fires caused by hunters or fishermen burned 30,392 acres, 13.9 percent of the total acreage burned. This was 2.1 percent of the total number of fires and may be accounted for by the fact that fires caused by sportsmen usually occur in areas where the fire can gain much headway before suppression crews can reach the scene.

A long fire season is indicated in Southern California, extending possibly into December. Shorter days and cooler weather, together with recent rains, have reduced possibilities of serious situations developing in the northern part of the State, and many crews have been dismissed. Suppression crews will be kept on duty, however, until all danger is past.

Except for two bad wind periods, late in September and early in October, weather conditions have been favorable. Difficulty in fire control was caused in part by loss of much of heretofore available CCC man-power and inability to keep suppression crews at strength. In many instances the military forces have taken the place of the CCC's manpower in fighting fires. Evidence of this was the action taken in Monterey County by the Army, and concerning which State Forester M. B. Pratt wrote the following letter:

"October 11, 1941

Colonel Roger S. Fitch
Cavalry U.S.A.
Commanding Officer
Fort Ord, California

Dear Colonel Fitch:

We wish to take this opportunity to express our sincere appreciation of the whole-hearted cooperation which you and your officers and men gave this Division during the recent serious fire emergency in Monterey County.

It is with sincere gratitude that we have learned of the outstanding service your officers and men rendered during this emergency. Our field men and representatives of this office who had the pleasure of working with your officers, Colonel Beers, Major Thomas, and others in command of the men during this time, have reported to us that the work accomplished was very outstanding, and the splendid attitude and morale of the officers and men during the entire time was certainly commendable.

At this time we wish to inform you that if we can be of assistance to you in any manner, please do not hesitate to advise us.

Yours very truly,

M. B. Pratt, State Forester"

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IF YOU LIKE TO HUNT--

Pheasant season will be slightly longer this year than in the past. Season opening is November 15, ending November 24. No hen pheasants may be taken; the limit, 2 birds per day, 2 in possession, 8 per season. And don't forget your license!

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FORESTRY BOARD MEETS

Action at the last meeting of the State Board of Forestry, held in Eureka on October 3-5, included acceptance of two pieces of property for use of the Division of Forestry. One tract, 2.06 acres, is in the townsite of Fort Jones, Siskiyou County, and the other, 45.38 acres, is located in Shasta County.

Commended by special resolution of the Board was Ranger Cecil Metcalf, Tulare County, for apprehension of a man who had thrown a lighted cigarette into dry roadside grass.

The Board conferred with redwood operators on forest problems of the redwood area. A demonstration of forest management and selective logging was arranged for the members of the Board by the redwood operators. Mill operations were demonstrated by the Hammond Lumber Company.

Also in attendance was Professor Emanuel Fritz of the University of California, Berkeley.

Scheduled for October 31, in Visalia, and in San Bernardino on November 1, the next meeting of the Board has on its agenda a discussion of reforestation policy for California; discussion of State-owned forests policy in redwood areas, and adoption of policy relative to Constitutional Amendment 6.

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SENATE CONSTITUTIONAL AMENDMENT 6

For those who may not be familiar with the provisions of SCA 6, which will be on the ballot November 4, 1942, a brief resume of the bill is hereby given:

The State Board of Forestry shall consist of seven members appointed by the Governor, with the advice and consent of the Senate. Members first appointed shall have terms expiring on the 15th of January in each of the years, 1944 to 1950. Each subsequent appointee shall hold office for seven years from date of expiration of term of his predecessor and until his successor is appointed and qualified. Appointments made when Legislature is not in session shall be subject to confirmation by the Senate at the next regular or special session of the Legislature.

Board members may be removed by two-thirds vote of each house of the Legislature. They shall serve without pay and shall represent the State's interests in acquisition and management of State forests and in Federal land matters pertaining to forestry, and shall determine, establish, and maintain an adequate forest policy.

The board shall appoint and fix the compensation of an executive officer, known as the State Forester, who shall be ex officio the Chief of the Division of Forestry, Department of Natural Resources. He shall be a technically trained forester certified as such by the department of forestry of the University of California. The State Forester shall not be a member of the board and shall be exempt from civil service. The board shall have power to remove the State Forester for misconduct, incompetence or neglect of duty.

The board may delegate to the State Forester and to the Division of Forestry, such authority or functions vested in it by law or by this article as it may deem wise.

The board is the governing body of the Division of Forestry and succeeds to and shall have and exercise all the powers, duties, purposes, functions and jurisdiction which immediately prior to the operative date hereof were vested in any other State officer or agency by any provisions of Division 4, Public Resources Code.

Provisions of this article shall become operative on January 15, 1943.

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PREVENT EROSION

Cover crops should be planted before November 1 on all lands subject to soil erosion, stated L. N. Brown, soil conservation specialist, University of California Agricultural Extension Service. This will allow the cover crops to establish themselves before the heavy winter rains begin.

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CORK--A RISING INDUSTRY

One of the problems faced by industry today is the scarcity of cork, due to war conditions which prevent its importation from Europe. A satisfactory substitute for this material has been diffioult to find.

California is probably the only area in the United States having sufficient acreage available for production of cork oak (Quercus suber). Closely resembling the canyon live oak in physical and environmental characteristics, the cork oak will probably grow anywhere within range of this latter tree; that is in valleys and canyon slopes from 1000 to 5000 feet in elevation.

Native to areas in Spain and Portugal, where climatic conditions are similar to those in a large part of California,

the cork oak is thriving in experimental plantings now being carried on by the California Division of Forestry in conjunction with the ~~Experimental~~ Extension Forester, University of California.

There are several hundred thousand acres of otherwise waste land in California which could be growing this crop, preventing future American dependence upon European imports. Not only is the cork oak commercially valuable, but it is also useful to a limited degree in soil erosion control and as a mast or acorn crop relished by livestock.

One of the problems, however, which must be solved in commercial planting of this tree is securing and handling adequate supplies of viable seed.

Rangers should familiarize themselves with the cork oak, and with the areas in their districts suitable for its growth and production. Detailed information on its propagation and the economics of the cork industry can be made available to interested persons, upon application to the Division of Forestry, Sacramento.

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WILLIAM STARKE DIES

Forestry conservation suffered a loss in the recent death of William Starke of San Bernardino County. Long a proponent of conservation of forests, Mr. Starke was on the San Bernardino County Board of Forestry for several years. He was

president of the San Bernardino County Orange show and formerly in charge of the San Bernardino City Water Department. Mr. Starke was the father-in-law of State Forest Ranger Russ Smith of San Bernardino.

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STATE FORESTER PRATT ATTENDS MEET

Attending the National Association of State Foresters' annual meeting at Old Point Comfort, Virginia, on October 13-15, was California's State Forester M. B. Pratt. While attending the meeting, Mr. Pratt was on the Clarke-McNary Committee (under this Act California annually receives money from the Federal Government for timber and watershed protection), and also on the radio and resolutions committees.

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"WHILE CIGARETTES BURN"

(from "The Forest Log", Oregon)

Studies made by the Bureau of Standards concerning the cigarette fire problem show striking facts which will be of interest to every fire warden. The bureau's statistics show that in 1937 a total of 54,000 cigarettes were lighted every second and that these cigarettes were thrown away at an average length of one and one quarter inches, and then burn 8.5

to 12 minutes. Six out of nine burn full length.

On a dried grass pad with a wind of three miles per hour, 85.3 percent of the cigarettes ignited the grass. Average time of ignition, 5 minutes. On Douglas fir duff in Washington, 20 tests set 19 fires. On rotted Douglas fir wood, 10 tests set 5 fires, but the relative humidity was above 25 percent, which is the critical point.

The studies by the bureau further showed that cigar butts go out in 2.3 to 5.17 minutes. They do best in a high wind. In a 9-to 12-mile wind, 39.3 percent set fires, in an average time of 2.41 minutes.

With 54,000 cigarettes thrown away every second, and 19 out of 20 of them ready for the beginning of another forest fire if they land in the woods, the forester does have some thing to be concerned about.

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CHRISTMAS TREE SHIPPING PERMITS TO BE ISSUED

An adoption of uniform procedure in the handling of truck transportation of Christmas trees was made at a conference of law enforcement men. Clearance or shipping permits for this method of transportation of trees will be issued forest rangers, with the following points to be noted:

1. Each truck load of Christmas trees must be provided with a shipping permit properly filled out, signed, and acknowledged.

2. Each truck loaded with trees from out of State should be given a clearance paper by State quarantine officers.

3. The members of the State Highway Patrol will cooperate in enforcement of the provisions.

In the case of trees cut under sale permit or contract on Government land, any Forest Service employee charged with supervision of the operation in question may sign the shipping permit as authorizing officer. In lieu notaries public, it was the conference's opinion that Forest Service law enforcement officers, other members of the Supervisor's permanent force, or their authorized representatives, might administer oaths and sign these permits. Adequate proof must be given through bill of sale or otherwise that the trees were cut legally, when taken from privately-owned land. In case of doubt as to legal ownership of trees cut from privately-owned land, the possessor of such trees should be required to have the shipping permit notarized.

The permits provide for the loads to be delivered during a specified period to preclude more than one load being delivered on one permit.

Permits for shipments originating on private lands may be issued by forest officials, members of the State Division of Forestry, and possibly by certain county officials.

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PAGE THE DOCTOR!

Received in the office of State Forester Pratt this month was the following request:

"Dear Sirs: Please send me a phamphlet on Pine Blisters as soon as possible.

Respectfully yours,"

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WEATHER REPORTS TO BE TEMPORARILY DISCONTINUED

Unless written expressions to the contrary are received from rangers, Krick's weather forecasts will not be sent during the "off-season", stated Herman P. Meyer, Division of Forestry weather representative. Assuming these reports will be of no benefit to the men in the field during the winter period, they will be discontinued until April.

In counties where fire danger rating instructions were given this year, it is hoped permanent employees will have obtained the necessary information for carrying on next year, from the seasonal weather compilers who have handled the work, before they go off duty.

Upsets in the weather program are not looked for this year, but between the National Emergency and reorganization of the Weather Bureau, Meyer has his fingers crossed against a recurrence of last year's between-season disturbances.

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California Department of Natural Resources

DIVISION OF FORESTRY

William H. Moore, Director — Sacramento — M. B. Pratt, State Forester

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Estelle J. Baxter, Editor

VOL. 2, NO. 5 — N E W S L E T T E R — MARCH, 1943

WILLIAM H. MOORE APPOINTED DIRECTOR OF NATURAL RESOURCES

William H. Moore was appointed Director of Natural Resources on March 1, by Governor Earl Warren. Former Director Kenneth I. Fulton submitted his resignation early this year, but it was not accepted until this month.

Director Moore, a resident of Sacramento, comes to this Department from the Department of Finance, where he has been an accountant for the past seven years. Prior to that time he was connected with the United States Steel Corporation. Married, Moore has no children.

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LEGISLATION AFFECTING THE DIVISION

Introduced by Senator Tickle, Senate Bill 357 add Section 4014 to the Public Resources Code, relating to the acceptance by the State of the provisions of the Clarke-McNary Act.

Provisions of the bill are:

Section 1. Section 4014 is hereby added to the Public Resources Code, to read as follows:

4014. The State of California hereby accepts the provisions of the Clarke-McNary Act, approved June 7, 1942, as amended, passed by the Congress of the United States, and entitled "An act to provide for the protection of forest lands, for the reforestation of denuded areas, for the extension of National forests, and for other purposes, in order to promote the continuous production of timber on lands chiefly suitable therefor," and will observe and comply with the requirements of said act of Congress, with particular regard to the provisions set forth in Sections 1 and 2 thereof.

The Division of Forestry, Department of Natural Resources, shall be the agent of this State for the purposes of said act. The department shall have full power to cooperate with all the authorities of the United States having powers and duties under said act of Congress to do and perform all things necessary to secure to this State the benefits of that act of Congress in the promotion and maintenance of a system of forest fire prevention and control.

The Division of Forestry, Department of Natural Resources, is authorized to expend out of any funds or appropriations made available to the Division of Forestry the sum required to meet expenses incurred in connection with said program, not exceeding the allotment granted by the Federal Government for such purpose. Such expenditures shall be in accordance with a budget compiled by the State Forester with the approval of the State Department of Finance.

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Senate Bill 509, introduced by Senator Biggar, is an act to add Article 6, comprising Sections 4421 to 4431, inclusive, to Chapter 2 of Division 4 of the Public Resources Code, relating to the acquisition and reforestation of cutover lands.

The bill states:

Section 1. Article 6, comprising Sections 4421 to 4431, inclusive, is added to the Public Resources Code, to read:

Article 6. Reforestation of Cutover Lands

4421. The Department of Natural Resources through the State Board of Forestry is hereby authorized to undertake a program of forest land acquisition for the creation of State forests; the reforestation of such of these lands as may need it; and the preparation of plans for the employment on these lands at useful, productivity-increasing work of jobless men in future unemployment emergencies.

4422. The State forests acquired under the provisions of this article shall be managed for permanent forest production, and the timber now growing, or to be grown, thereon shall be sold, cut and removed only in conformity with cutting principles assuring prompt regrowth for the purposes of providing a permanent source of timber supply, protecting watersheds, prevention of soil erosion, and contributing to the economic stability of local communities and industries, and providing recreational facilities.

4423. Nothing in this article shall be construed to interfere with the use of the State forests for hunting, fishing, and mining, or the use and development of power sites as may be authorized by law.

4424. To qualify as being suitable and desirable for State forest purposes, any land under consideration for purchase shall be forest land of good timber-growing capacity; shall be possible of economical reforestation, administration and management; and may be valuable also for watershed protection, recreation, and fish and game production.

4425. "Forest land" as used in this article is land now bearing commercial timber, or cutover land capable of reforestation to produce commercial timber. "State forest" as used in this article refers to forest land owned or to be owned and managed by the State primarily for timber production.

4426. Whenever it appears that forest lands, after thorough surveys, examinations, and appraisals, are deemed suitable and desirable for State forest purposes, the State Forester shall prepare the necessary information for their acquisition and exchange of title, and take the necessary steps for their purchase, provided that purchases shall be approved by the Department of Finance, and that their suitability and desirability for State forest purposes shall be certified to by the State Board of Forestry and the Director of Natural Resources.

4427. Whenever it appears that virgin timberland within the boundary of a purchase area should be acquired for State forest purposes, but is not available for purchase, the State Forester, subject to the approval of the State Board of Forestry, is authorized to enter into agreements with the owners for purchasing the lands subsequent to their logging, provided that such logging shall have been done under cutting and other practices designed to maintain the productivity of the forest land and approved by the board. The price to be paid for such lands may be stipulated and agreed upon prior to logging but contingent upon the logging being conducted in conformity with such approved cutting practices.

4428. Forest lands purchased under the provisions of this article may be sold, exchanged or leased by the State Board of Forestry, with the approval of the Director of Natural Resources and the Director of Finance when in the board's judgment it is advantageous for the State to do so and such transfer shall not be contrary to the terms of any contract made at the time of purchase.

4429. Lands acquired by the State by gift or donation for State forest purposes and tax-deeded lands which have been classified for forest purposes pursuant to Chapter 4.3 of Part 6 of Division 1 of the Revenue and Taxation Code shall come under the provisions of this article on the same basis as lands acquired by purchase.

4430. The State Forester shall make, subject to the approval of the State Board of Forestry, such rules and regulations as may be necessary and proper for carrying the provisions of this article into full force and effect.

4431. There is hereby created in the State Treasury the State Forest Fund. All revenues derived from State forests acquired under the provisions of this article together with the sum of one million five hundred sixty thousand dollars ($1,560,000) from the General Fund in the State Treasury, are hereby appropriated to the State Forest Fund, to be used by the department for the following purposes:

(a) One million five hundred thousand dollars ($1,500,000) to be used for no other purpose than purchases of land pursuant to this article.

(b) Fifty thousand dollars ($50,000) to be used by the State Forester for making examinations, surveys, appraisals and the like of land suitable and desirable for State forest purposes and for the preparation of a list of purchase areas within the boundaries of which State forest land purchases shall be made. Such purchase areas shall be selected in all forest growing areas of the State where lands suitable for forest production, as described in this article, can be secured.

(c) Ten thousand dollars ($10,000) to be used for the preparation of plans for relief work for enhancing the value and increasing the productivity of the State forests and for the administration and management of such work.

(d) Fifty (50) per cent of the gross current revenue derived from State forests in any county to be paid into the county treasury, and to be used by the county for maintenance and construction of roads and highways one year after purchase of State forest lands in the county and shall be paid annually thereafter.

(e) Any other money in the fund to be used in carrying out the provisions of this article.

The Director of Natural Resources shall, at least quarterly, pay into the State Treasury all revenues derived from State forests acquired under the provisions of this article, accompanied by a detailed statement thereof. The Controller shall draw his warrant from time to time in favor of the department for the amounts expended under its direction, and the Treasurer shall pay the warrants.

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WEATHER WISE

We have previously discussed how heat alone produces a drying effect upon atmosphere, unaccompanied by any actual loss in total moisture content. Examples of this principle we found in the "stuffiness" of indoor winter conditions and in the dryness of north winds.

The reverse phenomena, namely increased air dampness induced by cooling, was also illustrated from everyday experiences. The condensation of exhaled winter breath, the frost on refrigerator coils and the "sweating" of cold surfaces, as chilly windows, was called to mind.

The list of common evidence bearing out this point, or these points, might be extended almost without end. It is perhaps apparent to us now why dew is deposited in lowland areas on the cold surfaces which readily lose (radiate) heat during clear, still nights. We hardly need to be prompted to enlarge this idea to connect up in our minds the facts that hunters, seeking open air quarters for their camp, go to high locations to avoid night chill (cold air drainage) which in turn causes the dew that contributes a welcome addition to fuel moisture. Thanks to the danger retarding influence of these condensed (re-deposited) vapors which spring from upper soil moisture evaporation, there is a slowing down of extreme fire conditions in our lowlands until after continental winds have pretty completely dried out the ground surface.

Did you ever go into an air-conditioned store in summer and find that in spite of the fact it was cool, the air seemed to promote a clammy feeling and that very little hurry resulted in liberal sweating? A little thought on this subject might tell us that our discomfort was caused by a reversal in conditions which make heated houses seem stuffy. Certain stores cool the air inside but fail to remove the excess moisture which results. The high humidity affects us like the washing on a damp Monday, by opposing evaporation, causing perspiration to pile up on the surfaces of our skin.

If it were possible and economically feasible to air condition a forest, like in these stores, there would be little threat of fire and most of the fire suppression men would shortly be out of a job. Coastal forests immediately adjacent to the ocean, as well as European and eastern forests, outside of being warmer enjoy somewhat the type of summer atmosphere (humidity up, sultry weather) that is to be found in these buildings. They are like an air-conditioned edition of our western forests and as a result we do not find fire ordinarily so menacing in them.

The lack of similarity in climate and resulting differences between these very distinct regional types is clearly evidenced in contrasting kinds of vegetation found as their respective forest understories. On the Continent and in the East, as well as along the seaward slopes of this coast, the vegetation of the forest floor is perennial (always green). On the other hand, in the bulk of our western forests this vegetation is annual for the most part, especially throughout the lower elevations where our own particular interest is concentrated.

These short lived annual plants which are of undisputed value on the range, yearly dry up and die, thereafter becoming only a "flash fuel" menace with which we are so intimately acquainted. This tinder, along with the weather which favors the existence of the forerunning plants, is capable of providing a summer time of entertainment for almost any western ranger. The same elements (moist winter, arid summer, plus annual vegetation) play a very dominant economic role in the west and can be found on both the credit and debit side of the ledger as regards the peace, security and prosperity of rural and urban California life.

What causes typical summer aridity in one region and the relatively humid conditions of another is a subject which leads us back once more to the interior of air-conditioned buildings and to the insides of refrigerators. Such a tale can best be told by accounting for the origin of big "gobs" of atmosphere (air masses) which move about together and in traveling, change, and place their stamp upon the many places visited. A most interesting story of this kind tells why southern California weather is cut out by nature to be strongly desert-like. There is good reason why avacado, grapefruit and retired people take a shine (and vice versa) to southern California.

In order to save something on this subject for a future issue, as well as remain a step ahead of the weather, I shall "dry up" at this point.--Herman P. Meyer, Assistant State Forest Technician.

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Bob Hope: Tell me, how are the hula girls over in Hawaii?

Soldier: Sorry, Bob, I'm not supposed to say anything about them.

Hope: What's wrong with talking about the hula girls?

Soldier: It's against military regulations to discuss foreign movements!

MANPOWER SHORTAGE DISCUSSED

Joint meetings of State and Federal forestry and National Park representatives were held during February for discussion of the manpower situation. Meetings were scheduled in Redding, Sacramento, Fresno and Los Angeles.

Outlook for firefighting and blister rust crews is bleak. Officials anticipate a definite shortage of crew members. Principal source of manpower will be the schools, which will also be required to furnish much-needed agricultural help.

Partial solution of the problem may be to "pool" State and Federal forestry labor requirements, apportioning a certain percentage to each school district, thus ensuring each agency a fair share of available labor. Regular stand-by crews maintained by the Division of Forestry ordinarily total around 900; fire season crews approximate 2,000.

The suggestion that women replace men insofar as possible on fire crews has met with varied reactions from Division rangers. Some are definitely opposed to placing women on the "firing line", while others see no alternative to hiring them since scarcity of men may seriously hamper fire control work.

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In a recent circular letter, the following statement was made: ". . . the . . . office is not at all certain where we stand in relation to issuing pink slips for pickup labor."

Must be for those women crews we were talking about, eh?

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RURAL PROTECTION INTERESTS COURTS

County Officials Indicate Belief That Fire Protection in Rural Areas Should be Statewide

County courts have expressed keen interest in a suggestion that fire protection be made compulsory in all rural farm and grazing areas within the state that are not now under some form of organized protection, and it is quite possible that legislation towards that end will be introduced in the present session of the legislature.

At the present time there are three methods whereby protection can be organized and financed in these districts. These include two systems under the zoning act and another under the rural fire protection act. Under the zoning act the counties may be placed in zones 1 or 2. The former includes the farm and brush areas, usually adjacent to the regularly organized forest protection districts, and protection can be financed through a per acre assessment. In zone 2 the costs are collected by a millage levy. The initiative in both instances rests with the county courts.

Under the rural fire protection act, the districts are organized through the initiative of the residents within the district and once organized are administered by a board of directors. Costs are collected by a tax levy.

Many of these districts have been organized throughout the state but without consideration of the boundaries of similar districts. The result has been some overlapping in some instances while in others there are narrow strips of no-man's land that have no form of protection. In some counties there is no protection whatsoever other than that created on a voluntary basis by the residents.

Some of the county courts have been hesitant to create districts under the zoning act and are in favor of the legislature making it compulsory. An effort has been made to sound the attitude of all county courts in this respect through a questionnaire and if the sentiment is favorable it is quite likely that the necessary legislation will be submitted for consideration of the legislature.

Another problem that has arisen is the question as to how far the forest laws go in connection with the rural fire protection districts. Since they are municipal corporations, all authority rests with the officials, and it is quite possible that burning can continue within such districts when forests and other areas are closed. In order to clarify this it has been suggested that definite provision be made that closure laws and regulations apply to such districts, and when proclamations are issued for discontinuance of burning permits because of hazardous conditions, such regulations extend to these districts.--THE FOREST LOG, Oregon State Board of Forestry.

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QUARTER CENTURY OF FORESTRY

State Forester Merritt B. Pratt, whose length of service is more than the combined terms of his three predecessors, celebrated his twenty-fifth anniversary with the State Division of Forestry on February 1.

When he joined the staff in 1918, an ax and a shovel were just about the extent of a forest fire fighter's equipment, and many times Pratt and his men, lacking blankets, would keep warm at night by sleeping next to a smoldering tree stump.

Today modern fire trucks, water tanks, heavy blankets and other articles are part of the forest ranger's equipment.

And in 1919, a year after Pratt joined the service, there were only four full time rangers, compared with nearly 300 today with an extra 2500 men during the summer months.

Pratt's duties are to supervise the protection of 32,000,000 acres of timber, brush, grazing and grain land in California. And if anticipated legislation is enacted, the division will carry out a reforestation program on state owned lands.

In addition to the normal work of forest protection, the division also is directing a fire disaster plan to combat possible incendiary fires through enemy attack. This plan is organized in 32 counties with local fire departments cooperating.

Pratt, who was born in Pawpaw, Ill., October 3, 1878, came to California in 1905 as a graduate of the University of Chicago and the school of forestry in Yale University. He was on the staff of the United States Forest Service, working throughout superior California.

The year 1910 Pratt remembers as the worst in forest fire damage during his career. It was so serious 150 soldiers from the Presidio of San Francisco were called to help control the flames on the Forest Hill Divide in Placer County.

A year later a grove of gigantea sequoias was planted over the burned area. Curious tourists, said Pratt, often are puzzled about these trees which have attained hights of from 40 to 50 feet.

Oddly, Pratt's uncle and namesake, the late Merritt B. Pratt, died of injuries while fighting a brush fire in San Diego County 50 years ago. A few weeks ago the forester dedicated a new adobe forestry building near the site of the fire which cost his uncle's life.

Pratt became State Forester in 1921 under an appointment by former Governor William D. Stephens. Subsequently, the position was given a civil service classification.

Prior to coming to the Capital City, Pratt served for a time as the University of California's first professor of forestry. He had left the United States Forest Service while serving in Nevada City as deputy forest supervisor in the Tahoe National Forest.

Pratt is past president of the Association of State Foresters, a senior member of the Society of American Foresters and a member of the American Forests Association.

He has been married to the former Laura Schraeder of Nevada City since November 21, 1907. They have two daughters, Mrs. Joseph Anderson of Sacramento and Mrs. Quentin Corley of Phoenix, Arizona, wife of an air corps captain. There are three grandchildren, Judith Anderson, 3½, Valerie Elizabeth Anderson, born January 11, 1943, and Vickie Louise Corley, born last December 6.--THE SACRAMENTO BEE.

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"No, son," said the chaplain to the newly recruited chorister. "It's 'Amen', not yea man!"--THE FOREST LOG.

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RANGER ED NELANDER ILL

Due to the serious illness of State Forest Ranger Ed Nelander, Riverside County, Associate Ranger John Tomblin has been placed in charge of that county, pending Nelander's return to duty.

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NEW APPOINTMENTS:

Allen Hayes, Assistant Ranger	Eldorado County
Ed Young, Assistant Ranger	Santa Clara County
Charles Colombo, Assistant Ranger	Humboldt County

TRANSFERS:

Wm. Mann, Associate Ranger	Madera to Placer County
John Tomblin, Associate Ranger	Orange to Riverside County

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DIVISION OF FORESTRY
MILITARY HONOR ROLL

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EDWARD GUTOWSKI, Assistant Ranger	Kern County
EARL FITZE, Dispatcher	Butte County
FRANK MOORE, Property Inspector	Sacramento County
JOHN LOCKHART, Assistant Ranger	Yolo County
LOUIS BAKER, Technical Office	Sacramento County
THOMAS HENSON, Dispatcher	Calaveras County
SIDNEY ORMSBEE, Assistant Ranger	Santa Cruz County
ROSCOE SAVAGE, Assistant Ranger	Tuolumne County
DAROLD DOWNING, Dispatcher	Humboldt County
WM. JAMIESON, Assistant Ranger	Mendocino County
GODFREY D. GERMAN, Assistant Ranger	Sacramento County
DONALD KNOWLTON, Dispatcher	Mendocino County
N. O. STEPHENS, Assistant Ranger	Fresno County
RUSSELL Z. SMITH, Ranger	San Bernardino County
WALTER BANCHERO, Assistant Ranger	Yolo County
ROBERT FERNALD, Dispatcher	Siskiyou County
HERMAN HAMMACK, Assistant Ranger	Yolo County
JAMES HEINER, Assistant Ranger	Kern County
HARRY TRACY, Assistant Ranger	San Diego County
ARTHUR CRAIG, Assistant Ranger	Kern County
W. W. SKINNER, Ranger	San Bernardino County
MARK SHARER, Assistant Ranger	Eldorado County
ST. CLAIR BOTKIN, Assistant Ranger	Shasta County
LEWIS MORAN, Associate Ranger	Sacramento County
SIDNEY LAMERTON, Associate Ranger	Kern County
BRADFORD WILLIAMS, Assistant Ranger	Tehama County
ROSCOE CURTICE, Assistant Ranger	Tuolumne County
ERNEST RAMIREZ, Assistant Ranger	Yolo County
HAROLD BARR, Assistant Ranger	Yolo County
FRANK JENKINS, Assistant Ranger	Calaveras County
HARRY WARD, Assistant Ranger	Eldorado County
RICHARD HARKNESS, Assistant Ranger	Santa Clara County
JOHN HOEPPEN, Assistant Ranger	Santa Clara County
HARRY McGLAUGLIN, Dispatcher	Eldorado County
LAWRENCE E. RUTH, Ranger	Sacramento County
GERVICE NASH, Assistant Ranger	Santa Clara County
HERBERT S. GILMAN, JR., Asst. Ranger	San Diego County
DONALD LANDON Associate Ranger	Butte County
PAUL L. HAGEN, Dispatcher	Kern County
PHILIP WALKER, Dispatcher	San Benito County
JAMES REED, Assistant Ranger	Santa Clara County
HOWARD STANFORD, Assistant Ranger	Tulare County
J. HAROLD HUNT, Assistant Ranger	Calaveras County
ALLEN PORTIGAL, Assistant Ranger	Orange County

California Department of Natural Resources
DIVISION OF FORESTRY

William H. Moore
Director

Sacramento

M. B. Pratt
State Forester

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Estelle J. Baxter, Editor

VOL. 2, NO. 7 N E W S L E T T E R MAY, 1943

DIVISION OF FORESTRY TO BE REORGANIZED

Reorganization of the Division of Forestry into six administrative districts has received approval of Natural Resources Director Wm. H. Moore, announced State Forester M. B. Pratt here this month. The new system is designed to cooperate closely with the plans of the War Council, which will go into effect May 1. An outstanding role in protecting the resources of California from fires resulting from normal or abnormal causes, will be given the Division.

Need for a district system, replacing the central system in effect up to the present, was occasioned by tremendous expansion of the Division, making the central office method of supervision unsatisfactory because of lack of close supervision of field work.

Under the new plan each district will be supervised by a Deputy State Forester whose headquarters will be situate in a strategic city in the district. State Forest Rangers will report directly to the Deputy State Forester in their respective districts instead of to the State Forester as heretofore. The deputies, in turn, will be supervised by the State Forester, who will outline policies and procedures.

Each deputy will spend 50% of his time in the field, as will the State Forester.

Offices of the deputies will be staffed as need arises. It is expected a working nucleus of each staff will be in effect in all districts within the month. In two of the districts where offices have been established, rangers will be instructed in the near future to route their business through them.

Regular monthly staff meetings of Deputy State Foresters will be held in Sacramento or some other designated place. At these meetings there will be discussions in detail of all matters pertaining to the various districts.

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FORESTERS FIGHT PRESEASON FIRES

(From THE FOREST LOG, Oregon)

Continued warm weather and dry winds that started about the middle of February created a fire situation in the major portion of western Oregon that compared closely to mid-summer conditions. Intentional and careless starting of fires without any effort to patrol or suppress them resulted in the burning of several thousand acres of second growth and fern lands and the destruction of a considerable area of small trees.

From reports reaching the office of the state forester it appears that operators, railroad companies and small ranchers living in the marginal areas are equally guilty. A fire that was set to clear debris around a mill in the Siletz Basin got out of control and burned over some 1,500 acres of cutover land. State forestry officials who assisted in control of the blaze stated that dense thickets of second growth were not damaged but in areas where the trees were scattered the loss was serious.

In Columbia County another operator set fires to clean up around camp and the fire spread over a considerable area of company lands. Here again there was considerable loss in second growth.

On the lower Salmonberry River a fire which was alleged to have been started from railroad right of way clearing, burned over a large territory of cutover lands and also got into the operations of Yunker & Wicks on Cronin Creek. Fire from a similar cause burned on both sides of the North Fork of the Santiam River east of Gates. This one did considerable damage to reproduction in the Marion State Forest. A rancher fire on the lower Nehalem burned over two sections of land near Foss.

This is the first time in the history of organized forest protection in Oregon that the state has undergone such serious fire weather so early in the year and where so much damage has resulted.

Conditions became so serious that the Civilian Defense Act of 1943 was rushed through the legislature and the governor immediately issued a proclamation closing the season for burning.

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During a lull in the A.E.F. activities in London last week, a colored boy from Chattanooga got in a poker game with a few English chaps. Picking up his cards he found four aces. Someone had just bet one pound and the colored boy said: "I don't know how yo' boys count yo' money, but I'll raise yo' one ton!"--The Old Line Acorn.

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LEGISLATION AFFECTING THE DIVISION

Governor Earl Warren signed two bills this month pertaining to the Division of Forestry. The first, Assembly Bill 1121, signed April 14, provides that, in addition to members of police and fire departments, no employee of the Division of Forestry is liable for civil damages on account of personal injury to or death of any person or damage to property resulting from the operation in the line of duty, of an authorized emergency vehicle while responding to an emergency call or when in the immediate pursuit of an actual or suspected violator of the law, or when responding to but not upon returning from a fire alarm or emergency call.

The second bill, Senate Bill 173, was signed April 21. It provides that it is unlawful to cut for conversion into lumber any sound live coniferous tree less than 18 inches in average diameter measured outside of the bark at a point on the trunk six inches above the general level of the ground surrounding the tree, in that part of California lying north of the 6th Parallel, South, unless a permit so to do is first obtained from the State Forester.

This does not apply to the cutting of trees less than 18 inches in diameter to complete contracts entered into prior to the effective time of this measure.

Violation of any provision of this chapter is a misdemeanor.

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The game of La Crosse was first developed by the Indians in Canada and northern United States. Then some time later Hitler invented "la-double-cross".

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PRELIMINARY ESTIMATE OF CALIFORNIA LUMBER PRODUCTION FOR 1942

The lumber production of California sawmills in 1942 was 2,322,170,000 board feet according to a preliminary estimate made by the California Forest and Range Experiment Station of the Forest Service in cooperation with the Bureau of the Census, the U. S. Department of Commerce and the War Production Board.

Although hampered by shortage of manpower and equipment and by adverse weather conditions in the spring, the lumber industry responded to the unprecedented wartime demands for lumber by producing only a fraction less than was sawed in the record year of 1941.

For the State as a whole, with the exception of redwood, Douglas fir and white fir there was a decrease in the cut of all species ranging from 2.7 percent in incense cedar to 19.3 percent in Sitka spruce. The most outstanding increases were 16.2 percent for Douglas fir and 30.1 percent for white fir. The most significant decreases were 3.7 in ponderosa pine and 12.6 in sugar pine.

In the pine region the estimated lumber production in 1942 was 1,730,931,000 board feet or approximately 3 percent below the 1941 output, due to declines in the cut of ponderosa pine, sugar pine and incense cedar. In the redwood region the estimated production of 591,238,000 board feet was approximately 9 percent greater than in 1941 due mainly to the increase in Douglas fir production.

As this statement is based on the cut of 266 out of an estimated active 314 sawmills in California the final production statistics issued by the Bureau of the Census will be different. The complete preliminary statement will be ready for distribution by the Experiment Station, Berkeley, within the near future.---NATIONAL FOREST NEWS.

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THE COW

The cow is a domestic animal all covered with leather. Her tail which hangs at one end, has a brush in order to shoo off the flies, or else they would fall in the milk. The head is on the front and has horns growing on each side which allows room for the mouth. The horns are used for fighting and the mouth to roar with. When the food is good the cow gives good milk, but when it thunders she goes sour.--THE FOREST LOG.

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WEATHER WISE

Last month we turned our attention to a special but important way in which gasses can be heated without heat. This was a mechanical process called adiobatic heating, resulting from compression.

To gain a lasting impression of the phenomenon, take a small hand pump, as a Coleman gasoline lantern pump; pressing the valve end down firmly on some not too sensitive portion of human flesh, force the plunger downward with a quick stroke. As a practical joke, on some other fellow, this will be a burn-up, indeed, and if tried on your skin you may also fail to see the humor.

Adiobatic cooling, on the other hand, is the process of reducing the temperature of a gas through expansion. This mechanical "chilly-hot" principle is operating constantly on a very grand scale in our atmosphere, although you may wonder about this since there is no pump or engine bringing about compression or expansion. To best illustrate what goes on, we will have to sidetrack our scientific wanderings into the briny deep to start off with the explanation.

In a very real sense we live in an "ocean" of atmosphere. If we were ever to get out of it we'd feel worse than a fish out of water.

Speaking of marine life, let us consider for a bit the uplifting environment of the poor fish. We know from common experience any underwater body apparently does not weigh as much in as out of water. In fact a floating object appears to weigh nothing in water.

To see why this is so, take a partly filled tumbler of water and push a large cork under the surface. As the cork goes below, the water will be seen to rise on the sides of the glass. The cork's bulk is displacing and therefore lifting water of equal volume to that of the cork. This water weighs something so it doesn't rise voluntarily any more than does water in a mountain stream run up hill.

Under the force of gravity it is competing for all of the lower spaces in the tumbler, seeking its own or base level. Therefore, the water tends to crowd and force in on the cork and it will lift the cork and itself settle down in all the "lower berths" if possible. Fluids have that habit.

That is all there is to buoyancy--an object which is lighter than water will float after it displaces its own weight of the liquid. Any body in water, like the lowly fish, will sink down and become lighter in the same amount, weight for weight, that it displaces water.

If this story seems to be going a bit fishy, it is only super-fish-ally so, for the same "push-em-up" principles hold in regard to the ocean of atmosphere in which we live. In this discussion we have been indirectly throwing some light on the ups and downs in the life of a mass, stream or dribble of air, shall we say, in order to better understand convection clouds, convection currents, up and down slope breezes, etc.

Returning again to the fish, we have decided he lives in uplifting conditions. Despite all this, he certainly leads a hard-pressed existence, which is even more so if he is particularly lowly on the marine social ladder.

For example, let us assume a whale, in a slumming mood, perhaps, goes into a "dive". He's curious to see what King Neptune has down below, so he goes deeper and deeper. But the going gets tougher and tougher, for Neptune applies the clamps all over Mr. Whale. It is not long before the big fish decides he doesn't want that basement space in Neptune's home as much as the water that is already there. The point is this: pressure in a fluid increases in proportion to depth beneath the surface.

The longer the column of water above, which pushes downward at any level, the greater the pressure. Hydraulic engineers speak of a "head" of water when they refer to the height of the vertical column, fall or drop, which implies a certain degree of pressure available for forcing their turbines into motion.

To return to the celestial blue from the briny blue, it is obvious to us now why the higher we go above sea level, the more the air pressure decreases, or vice versa. The pressure is low in the stratosphere and it is even too low for comfort on top of some of the world's high mountains. The reason again is simply that the higher we go, the shorter and less weighty is the column of air above which pushes downward, competing for the little bit of space we occupy.

Now the ocean and the "ozone" differ very materially in certain respects in spite of the fact both are fluids.

The ocean is liquid and the atmosphere is gaseous, and therein lies a great big difference. Gases are compressible. In fact, very much so, while liquids are not compressible. With sufficient pressure a gas will shrink right down to a liquid, which is exactly what happens in your refrigerator.

It is not hard to see the consequences of this fact as applied to our two universal fluids. The sea water does not get any more dense no matter how deep we go and no matter how high the pressure runs. That is the reason a sinking body goes right to the bottom.

But the atmosphere is different. Air, being under greater pressure at lower levels, is much denser than at higher elevations. This is why balloons, filled with light, buoyant gases, rise only so high, until they find their own level, so to speak. The denser air below competes more successfully for low level spaces. The rarified air aloft makes high mountain climbing a very exhausting sport and causes stratosphere flying to be a very different thing from that of lower altitudes.

These points we have been reviewing are going to add up soon to a rather comprehensive understanding of this stuff we keep puffing all day for no apparent reason, except that to stop would "put our lights out". It is this invisible stuff which, when applied vigorously to our unwanted fires by some unseen force, spells trouble. So it will pay us to understand it. We said in a previous issue that the atmosphere is like a big engine. This conception of affairs will help us understand some of the unseen forces which occasionally run riot.--HERMAN P. MEYER, Assistant Forest Technician.

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SNOW BANKS, AUTOS AND FIRE LINES

"Now I have seen it all," sighed John B. Woods, Jr., as he sank into a soft chair in the State Forester's office (Oregon) a few days after spending a session on the fire line in the Siletz Basin. John's expression of complete satisfaction--possibly tinged with disgust--was prompted by snowbanks, autos and transports; backfires outside the fire lines; fire lines inside the fires; 20 men where from 300 to 400 would be called out in the summer on a similar fire; and some few other minor points not listed.

The fire started down in the valley and headed for the summit of the Coast Range about two miles away. John, with some of the boys, started in on the Fanno Mountain truck trail to get at the head of the fire, and after they had gone about a mile wound up in a snowbank. Tire chains were put on but in a short distance the boys found themselves teetering on another snow bank with both front and rear wheels in the air. They went back and got the large transport. That was lovely until it shoved its nose into the snow about half the length of the rig and stuck. The rest of the trip was made on foot.

Then the crews got a line around one part of the fire and as they straightened up to take the kinks out of their backs saw someone had started a backfire behind them.

Down the hill was another hot spot and Woods grabbed a few of the Dallas high school lads who have been taking his fire instruction course as a preliminary to joining the emergency summer crews at a later date. He gave them detailed instruction as to what to do and where to put the trail, then went on down the hill a short distance to whip out a grass fire. When he returned, the boys had built the fire line but had located it right through the fire.

"Now I have come home," said John, "to check on that manual of mine that the boys have been using to see whether that is really the way I told them to fight fires."--THE FOREST LOG, Oregon.

. . . -

Officer: "What's the big idea? What are you men doing climbing trees and crawling through the bushes?"

Private: "Well, sir, we camouflaged the gun before lunch and now we can't find it."
--The Old Line Acorn.

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FIRST ALL-WOMAN FIRE CREW

Pioneering in the State's firefighting crews is the all-woman fire suppression crew in San Diego County, under direction of State Forest Ranger E. S. Miller. Forewoman of the crew is Mrs. Gene Pirazzini, wife of the Assistant State Forest Ranger in that county. This is the first all-woman fire suppression crew hired by the State.

Located at San Marcos the new crew will handle all fire calls for that district.

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Gal: "The jury awarded me $50 for my head injury and $5,000 for my legs."

Guy: "What was wrong with your legs?"

Gal: "Not a thing, brother!"--The Old Line Acorn.

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ASSOCIATION LISTS OUTSTANDING TREES

Several years ago the American Forestry Association, Washington, D. C., instituted a campaign to locate and preserve the largest trees of each species in the United States. Information desired was the diameter, spread, height and location. A photograph was desirable if possible to secure. Recently the association has issued a list of the trees so far reported and below are given those found in California:

Species	Circumference at 4½ feet
Incense cedar	28'
Chinquapin	10' 4"
White fir	20' 7"
Mountain hemlock	20' 10"
Oregon myrtle	36' 9"
Madrona	31' 4"
Sugar pine	31' 8"
Lowland white fir	19' 11"

Largest western hemlock is an Idaho specimen reported to be 16 feet, nine inches in circumference.--THE FOREST LOG, Oregon.

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CALIFORNIA'S LUMBER AIDS SHIP BUILDING PROGRAM

California lumbermen are contributing to the nation's shipbuilding program by supplying, among other things, keel timbers. In Humboldt County, W. R. and C. H. Brown, sawmill owners of Bridgeville, are shipping large timbers from that area, reports State Forest Ranger James Glenn.

Timber and lumber buyers are anxious to obtain the Bridgeville Douglas fir since it is tougher than Oregon or Washington Douglas fir, although the grain is not as fine. Trees giving 150 lineal clear log feet are being cut in the Browns' mill. Several cars of fender timbers have been shipped to the Los Angeles area for use by the Navy. These timbers were 32 feet long with 44-inch butts and 38-inch tips and specified clear.

The Kaiser Shipyards have received five ship keel timbers, 93 feet long with 52-inch butts and 37-inch tips, cut from trees 200 to 225 feet tall. Specifications call for timbers straight from trees without swelled butts; free of pitch rings, rot or any form of decay; free from knots over three inches.

Plans are being made by the Browns to cut yellow pine in the area between Bridgeville and the south fork of the Van Duzen, the trees averaging three to five feet in diameter.

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THE GOOSE

Geese is a low heavy bird which is mostly meat and feathers. Geese can't sing on account of the dampness of the water. He ain't got no between-his-toes and he's got a little balloon in his stummick to keep him from sinking. Some geese when they are big has curls on their tails and is called ganders. Ganders don't have to sit and hatch, but just eat and loaf and go swimming. If I was a goose I'd rather be a gander.---THE FOREST LOG, Oregon.

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AND NOW COME THE FLAMES!

We've become more or less accustomed to seeing WAACS and WAVES, SPARS and WOWS, with perhaps a few WINS added for good measure, but Mrs. C. G. Strickland, wife of one of the Deputy State Foresters has suggested that the Division of Forestry sponsor the FLAMES. The FLAMES, Forest Ladies Auxiliary to Men's Emergency Services, would assume the responsibilities of those firefighters called to war, wielding shovel or hoe, driving truck, or manipulating fire hose as the occasion demanded.

Expressions from the field regarding establishment of such a corps will be appreciated.

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WOTTA MAN!

Some guys can just about get away with anything and we know one that really does.

He's unmarried and has no regard for truth or the law. And the duties of the so-called good citizen are just so much bunk as far as he's concerned.

He doesn't vote at either the primaries or the general election and he never thinks of paying a bill.

He won't work a lick; he won't go to church; he can't play pinochle, or sea horse, or dance or fool around with the piano or the radio.

So far as we know he has no intellectual or cultural interests at all.

He neglects his appearance terribly and he's so doggone lazy he'd let the house burn down before he'd turn in the alarm. The telephone can ring itself plum nutty and he won't even bother to answer it. On such controversial subjects as the liquor question, nobody knows exactly where he stands, because one minute he's dry and the next minute he's wet.

But we'll say this for him--in spite of all his faults he comes from a very good family. He's the new 7 lb. 2 oz. bundle of joy the Stork delivered to Pauline and Emery Sloat (Associate State Forest Ranger) on April 13. And they call him Timothy Jerome.

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AND HERE'S MISS GLAMOUR OF 1960

Assistant Ranger Charles Wm. Wilcher of Camino believes--and who are we to argue with him--that the budding debs of 1960 or thereabouts are going to have a strong contestant for top honors. His candidate is Sally Irene, 6 lb. 8 oz. of feminine pulchritude, born March 12.

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DIVISION OF FORESTRY MILITARY HONOR ROLL

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EDWARD GUTOWSKI, Assistant Ranger	Kern County
EARL FITZE, Dispatcher	Butte County
FRANK MOORE, Property Inspector	Sacramento County
JOHN LOCKHART, Assistant Ranger	Yolo County
LOUIS BAKER, Technical Office	Sacramento County
THOMAS HENSON, Dispatcher	Calaveras County
SIDNEY ORMSBEE, Assistant Ranger	Santa Cruz County
ROSCOE SAVAGE, Assistant Ranger	Tuolumne County
DAROLD DOWNING, Dispatcher	Humboldt County
WM. JAMIESON, Assistant Ranger	Mendocino County
GODFREY D. GERMAN, Assistant Ranger	Sacramento County
DONALD KNOWLTON, Dispatcher	Mendocino County
N. O. STEPHENS, Assistant Ranger	Fresno County
RUSSELL Z. SMITH, Ranger	San Bernardino County
WALTER BANCHERO, Assistant Ranger	Yolo County
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HARRY TRACY, Assistant Ranger	San Diego County
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ERNEST RAMIREZ, Assistant Ranger	Yolo County
HAROLD BARR, Assistant Ranger	Yolo County
FRANK JENKINS, Assistant Ranger	Calaveras County
HARRY WARD, Assistant Ranger	Eldorado County
RICHARD HARKNESS, Assistant Ranger	Santa Clara County
JOHN HOEPPEN, Assistant Ranger	Santa Clara County
HARRY McGLAUGLIN, Dispatcher	Eldorado County
LAWRENCE E. RUTH, Ranger	Sacramento County
GERVICE NASH, Assistant Ranger	Santa Clara County
HERBERT S. GILMAN, JR., Asst. Ranger	San Diego County
DONALD LANDON, Associate Ranger	Butte County
PAUL L. HAGEN, Dispatcher	Kern County
WILLIAM H. STEPHENS, Foreman	San Benito County - CASUALTY
PHILIP WALKER, Dispatcher	San Benito County
JAMES REED, Assistant Ranger	Santa Clara County
HOWARD STANFORD, Assistant Ranger	Tulare County
J. HAROLD HUNT, Assistant Ranger	Calaveras County
ALLEN PORTIGAL, Assistant Ranger	Orange County
HAROLD F. WILLIAMS, Dispatcher	Tehama County

California Department of Natural Resources
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William H. Moore
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M. B. Pratt
State Forester

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Estelle J. Baxter, Editor

VOL. 2, NO. 8 NEWS LETTER JUNE 1943

AGRICULTURAL CLEARING PROGRAM FACILITATED

A milestone in better protection of North Coast Region natural resources was the April 28 meeting in Ukiah of representative stockmen, lumbermen, representatives of the U. S. Army, officials from the State Division of Forestry, and the United States Forest Service.

Main purpose of the meeting was to devise ways and means whereby burning could be done on areas most suitable for grazing, and for removal of slash resulting from logging operations. Last year very little hazard reduction work was done in the north coastal area because of apprehension felt as a result of the glow that would be visible from the ocean. Large areas of inflammable debris occurred from logging operations and stockmen suffered through their inability to convert some of their lands into areas suitable for grazing stock.

At this meeting an Army representative explained the way was now clear, under a recent order, to do day burning in much of the area involved providing permits were secured from State Forestry officials, with each permit clearing through Army authorities. Furthermore, no notification would be needed by the Army for burns of less than 160 acres except on areas where fires would be directly visible from the ocean.

In accordance with this understanding the way is now open for disposal of slash on logging operations and for burning restricted areas of standing brush on grazing lands. Such burning will be done under direct supervision of the State Ranger in the county concerned. Firefighting equipment and men will be available in case any fire should get beyond control.

It is not expected that many fires will get beyond control since no permits will be issued until the area to be burned is well protected by fire guards, and the permittee has sufficient help to do the burning according to the terms of the permit.

This program, commonly known as Agricultural Clearing, has been in effect for a number of years and has been very successful in reducing incendiary fires. It has the support of leading stockmen in the north coast region who claim that many acres of good feed have resulted from burning of brush areas that normally were nothing but a tax burden before burning was done.

As far as logging operations are concerned, removal of slash will afford great relief to lumbermen in getting out their logs as well as remove danger of huge conflagrations during hot summer months which might destroy their logging equipment and entail a large expense upon the State Division of Forestry and the operators to subdue.

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S. B. 1107 DEFEATED

Defeated in the Assembly on May 7 was S. B. 1107 (Biggar). Provisions of the bill were:

. . .505. There shall be a State Board of Forestry of seven members appointed by the Governor with the advice and consent of the Senate.

One of the members shall be a person of practical knowledge and experience in the pine timber industry; one in the redwood timber industry; one in general agriculture and in the beneficial use of water; one in the range livestock industry; and one in the recreational phases of forest use, inclusive of fish and game.

One of the members shall be a representative of the profession of forestry, chosen from the members of the faculty of the school or department of forestry of the University of California, or other college or university of equal rating.

One of the members shall be chosen at large.

The members first appointed shall classify themselves by lot so that the terms of such members will expire as follows: One member on January 15, 1944, two on January 15, 1945, two on January 15, 1946, and two on January 15, 1947. Each subsequent appointee shall hold office for four years from the expiration of the term of his predecessor and until his successor is appointed and qualified. An appointment to a vacancy occurring before the expiration of a term shall be but for the remainder of that term.

All appointments of members made when the Legislature is not in session shall be subject to confirmation by the Senate at the next regular or special session of the Legislature.

Sec. 2. Section 505.5 is added to said code, to read:

505.5. The State Board of Forestry shall represent the State's interests in the acquisition and management of State forests and in Federal land matters pertaining to forestry, and shall determine, establish and maintain an adequate forest policy. General policies for the guidance of the Division of Forestry shall be determined by the board. Pursuant to such policies, the Division of Forestry shall:

(a) Prepare and from time to time revise a complete plan for reducing to a minimum the losses caused by forest fires, insect pests, and forest diseases, and may cooperate with other agencies in the administration of the plan; and

(b) With such funds as are made available to it, provide for the adequate protection from fire of grass, grain, brush and timber on private and State lands giving

priority to forest and watershed areas, and may cooperate with local governments and other agencies in the administration of such protection; and

(c) Develop fully the facts and ascertain and determine, by detailed economic studies, the conditions under which the management of uncultivated wild lands should be primarily devoted (1) to the conservation of water, or (2) to erosion control, or (3) to production of timber and wood, or (4) to grazing of animals, or (5) to preservation of natural beauty and of wild life.

Sec. 3. Section 505.6 is added to said code, to read:

505.6. The State Board of Forestry upon the office of State Forester becoming vacant shall appoint, in accordance with the laws relating to the State civil service, an executive officer known as the State Forester, who shall be ex officio the Chief of the Division of Forestry in the Department of Natural Resources. He shall be a technically trained forester. The State Forester shall not be a member of the State Board of Forestry.

All assistants, deputies, rangers, and other employees necessary for the administration of the affairs of the Division of Forestry and the State Board of Forestry shall be appointed in accordance with the civil service laws by the State Forester with the approval of the board. The board shall fix their salaries and prescribe their duties in accordance with the civil service laws.

~~Sec. 4. This act shall not in any manner affect the civil service status of the person holding the position of State Forester.~~

Sec. 4. This act shall not in any manner affect the civil service rights, status, tenure or compensation of the person holding the position of State Forester when this act becomes effective and all duties and responsibilities now or hereafter imposed by law on the State Forester shall be performed by him.

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HE KNEW WHAT HE'D DO

A selling story that comes out of London has amused recently. A group of Londoners were standing in a long line, waiting to get their weekly ration of tobacco.

Up from behind came a little guy, with the assurance little guys usually have, and was edging toward the front of the line. Rough hands seized him. Rough hands passed him clear to the other end of the line. Unabashed, he started cheating his way to the front once more. And this time the big burly limeys at the front of the row were sore. They manhandled the little fellow, threw him back to the end again.

A London cop came up, demanded to know what all the rumpus was. Said the little guy ruefully: "They've pushed me back twice. If they do it again I won't open the darned old store at all!"--THE CROWN.

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EMPLOYMENT OF MINORS

Received in the office of State Forester M. B. Pratt this month was a letter from the State Compensation Insurance Fund regarding the status of employees under the age of 16.

"There is nothing in the Compensation Law which prohibits the employment of minors under the age 16. An employer has a compensation liability to such employees just as he has a compensation liability to adults. Child Labor Laws do prohibit the employment of minors under the age of 16 where they are required to be in close proximity to moving machinery and it is, of course, important that such laws be observed.

"Your Division does not carry compensation insurance as such but rather claims under the Compensation Law are handled for you by the State Fund on a fee basis. The cost of an injury sustained by a minor employed by your Division therefore would be a direct charge against you just as in the case of any other of your employees. In your interest we urge that care be used in assigning duties to minors that are fully within their capacity to perform with safety to themselves and to fellow workers."

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CALIFORNIA CORK

In the May issue of THE CROWN, published monthly by the Crown Cork and Seal Company, Baltimore, Maryland, is an article, "Cork Resources of California", by George D. Greenan, Supervisor, Cork Project for California. The article is profusely illustrated, one illustration showing a cork oak at Napa State Hospital. This tree is 58" in diameter, reaching a height of 75'. It is the largest cork tree in the country. The tree was planted in 1858 when the United States Government did some experimental planting of cork oak acorns in various sections of the State.

For a number of years the State Division of Forestry has cooperated with the Crown Cork and Seal Company, growing and distributing cork oak trees throughout California. Distribution is made under general direction of Professor Woodbridge Metcalf, Extension Forester, University of California.

According to State Nurseryman Ray Doney, the following trees and seedlings have been distributed:

Season of 1941-42	Season of 1942-43
Potted stock and bare root trees, 20,538	Potted stock and bare root trees, 28,675

Extracts from Greenan's article indicate the interest being taken by the Crown Cork and Seal Company in building up the cork oak industry in California.

"California at present produces more cork than any other state, and while a national survey has not been made to evaluate the cork resources of the nation, our resources are very small and the purpose of the California Cork Oak Project is to eventually free the west coast, and in time the nation, from its dependence on Europe for its supply of cork. While we cannot specifically name all of the uses that have been found for cork, it is essential for our army and navy, and, of course, with the nation being in the throes of war this commodity has been listed as one of the critical raw materials of which there is a shortage.

"War conditions which have interfered so seriously with ocean shipping have emphasized the desirability of developing at least an emergency supply of cork in those portions of the United States where cork oak will thrive. Of these areas, the valley and foothill sections of California afford the best locations.

"The Cork Oak Project which started in California in 1939 through the sponsorship of Charles E. McManus, President of the Crown Cork and Seal Company, has met with enthusiastic support by everyone in California interested in growing this much needed material. Extensive plans for carrying out this program have been formulated to make it possible for the Western Crown Cork and Seal Corporation to continue their active support by distributing these trees to qualified land owners who agree to plant and care for the trees.

"For California, the only western state where the greatest growth of cork oaks is to be found, a logical program would appear to consist in the development of plantings calculated, under conservative harvesting practices, to supply the requirements of that portion of the United States lying west of the Rocky Mountains where the product would have the maximum advantage in competing with foreign supplies because of the higher transportation costs to the west as compared with the eastern part of the United States.

"Consideration is being given to the purchase of sufficient acreage to start a plantation where the plantings can be given proper supervision and harvesting, handling and manufacturing organized on an industrial basis. The Western Crown Cork and Seal Corporation is pioneering this project with the idea of primarily supplying sufficient land and trees to take care of a substantial portion of western requirements. Much good can be derived from this initial step in the utilization of California land now producing little or no revenue, and the Western Crown Cork and Seal Corporation takes the lead in working toward the future of ultimately freeing America from its total dependence upon Europe for its supply of corkwood, and which should eventually result in giving California a potential ten million dollar industry."

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SELECTIVE CUTTING

The following item from the SOUTHERN LUMBERMAN, April 15, 1943, is of special interest because of the approval by Governor Warren of S. B. 173, which fixes a diameter limit of 18 inches at a point on the trunk six inches above the ground level for conifers cut for lumber.

"Mr. Lyle F. Watts, new Chief of the U. S. Forest Service, has advanced a good and timely idea, the general adoption of which would be helpful in two important ways. Mr. Watts point out that selective timber cutting offers a way to increase output per unit of labor, and that a more general adoption of the principle of selective cutting would serve to increase production with the same manpower now available.

"This is all very true. It has been thoroughly demonstrated that it takes more labor to produce a given quantity of lumber from small trees than from large trees. A log 8" in diameter and 16' long will produce 16 board feet; a log 16" in diameter and 16' long will produce 144 board feet; and a log 24" in diameter will produce 400 board feet. (Doyle Scale). In other words, it would take 25 logs 8" in diameter to produce the same amount of lumber as one log 24" in diameter. Stop watch studies in second growth Southern pine have shown that a saving labor of 11% per thousand feet can be made by not cutting trees less than 15" in diameter. Clear cutting in 25-year-old timber requires from 25 to 40% more labor per thousand board feet than in stands 40 to 75 years old. In some other species the ratio of saving is even larger.

"One difficulty in the way of any generally helpful result from Mr. Watts' suggestion is the fact that it will not reach the principal offenders. Most of the large owners of timber lands are already sold on the subject of selective cutting and are following this practice as a means of perpetuating their timber supply. Most of the cutting of immature timber is done by "peckerwood" sawmill operators and independent pulpwood contractors who buy the timber rights on some small tract of land and then proceed to strip it of every tree that will cut out a two-by-four or make a stick of pulpwood. The gospel of selective cutting has never made much impression on this class of operator, and some of the crimes against conservation committed by them make the heart sick.

"Selective cutting is advisable at all times as a means of conserving the timber supply. In the present emergency it is doubly desirable as a means of conserving both timber and manpower.

"It is greatly to be hoped that those who are guilty of cutting immature timber, either for sawlogs or pulpwood, will read and heed Mr. Watts' warning."

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WEATHER WISE

Last month we talked about mechanical heating brought about through adiabaticly squeezing a gas. We also stressed the buoyancy of light things and their apparent loss of weight when displacing fluids. The fact that pressure is proportional to depth below the upper surface of a fluid was a matter likewise given recent attention.

Our little discourse here may well turn again to the subject of heat, because it is heat that will not allow the world to stand still. This is said with weather especially in mind. Heat not only is very restless itself, but it causes everything else to be forever changing. Before we investigate how heat puts a lever under things and about matters concerning its divided personality (transformations), let us check upon heat's wanderlust.

Now, as to the means by which heat gives our universe the run-around, we shall probably wonder whether, in transit, heat goes first, second or third class.

Well, heat is versatile; in fact it is a three-way rambler. Its most exclusive mode of gadding about is entirely foreign to ordinary existence as we know it.

This first method is its own special and time-saving fashion of lightning dispatch, termed by scientists radiation waves or rays. We know a lot about the "as ifs" concerning and the effects arising from these waves, but, as with electricity, their true character seems to lie about two steps beyond our desires and abilities to closely scrutinize them. Suffice it to say, however, that it is on the ray-beam that 99 percent of the world's energy travels through outer space from its initial source, the sun, to our mother planet.

A large part of this energy first passes through atmospheric processing before bowing to the secondary claims of man and other mundane things. In this matter we should be interested.

As a skimmer of space in ray form, light and heat are like twin brothers hailing from an ethereal spirit realm. Heat and light can not be perceived by humans in the guise of "ray-stuff". Light rays are of short wave length and affect the eyes, giving us the sensation of sight. Both light rays and heat rays must strike something in order for us to be aware of them.

In the evening we can see sunlight (in twilight form) only as long as rays strike the limits of our atmosphere, but not as they pass over the edges of the world's air shell into black outer space. Also, heat as a ray is nothing if traveling in outer space. That is the reason that even on the hottest day the thin upper atmosphere is very cold, although all the rays that are coming to warm the earth are up there.

Perhaps we shouldn't do it in a weather discussion, but let us digress just a little to say a word or two about sight, since this topic is close to the subject at hand. Strictly speaking, we really do not see objects in any direct sense; we see only wave patterns of light that together with a background of interpretive excperience tell us various things about objects. Naturally, we could not expect then to have sight in the dark where there is no light. Also, under these conditions of attaining light second hand, we should not expect to find color blind people to have normal perception.

In jumping about by this novel space-hopping device (rays), heat and light are restricted to straight line of travel. Hence shadows lie in the direction of the sun and lines of sight (the light coming from an object to the eye) run straight and true. This fact is lucky for our lookouts, isn't it?

Upon bumping into material things, including gas particles, heat and light may be deflected; or if striking the obstruction head on will tend to be reversed in direction. Earth-shine often dimly lights parts of the moon that are in shadow. Smooth, shiny and light colored surfaces are especially efficient light rebounders. Electric heaters are provided with reflector plates behind the elements and white clothes are worn in the tropics for these reasons--to cast off heat in the one instance and light in the other.

The sky appears blue because blue rays are sufficiently short in wave length so the highly diffused, minute air particles serve them effectively as deflecting agents, selectively scattering those rays throughout the upper atmosphere. The more particles, the bluer it gets. Even distant mountains may appear blue for the reason that the intervening air is colored. On more humid days, the mountains are bluer; thus the old rain proverb.

In any case, however, a portion of these rays upon striking non-transparent interferences are caught and digested, as it were, by the interrupting substance and a new and different kind of heat appears. We can feel this heat as warmth. It is the counterpart of sight. We can probably begin to appreciate that heat is many things to different things, being possessed of a several-sided personality as has been suggested.

On this plane the subject at once becomes more tangible, for heat has entered our sensory world. It becomes now the concern of investigative people who have thermometers and watch humidities, and of all the little earth borne animals that sweat and freeze.

In this more down-to-earth form, heat moseys about through and between connecting physical things as though it were an irresistable spirit. However, like water, it is given over to downhill paths of least resistance. It is shuttled along hand to hand between the tiny molecular particles of substances which thereupon frequently behave as though they had been touched by magic and roused from the dead. Under the vitalizing influence of this "heat-spirit" all change, movement and life enters in upon the stage of existence--a world that would otherwise be very still and cold.

The feel-hot variety of heat enters all substances on a year round ticket, spreading and passing along, being regulated only by the temperatures and conductive character of the materials contacted. Heat of this form associates itself with the land of the "little-bitsies", to borrow from Junior's vocabulary. It excites the infinitely small molecules, giving them the "hot foot", or perhaps we should say, the jitters. These infinitely small units then make ready to move the world.

In gasses, this warming type of heat, craving to get about, speeds the wild flight of the scurrying, unseen multitudes. The stimulated particles fling about ever more furiously, banging into one another with greater frequency and battering hard on any and all restraining walls. So, as we might expect in confined areas, this accelerated push and shove of the gas particles shows up as an increase in internal pressures. This outward-forcing pressure, caused by the intrusion of heat, is of the explosion type (e. g., thunder) and is in contrast to inward crushing pressures of the under water variety discussed last month.

The last manner in which heat journeys from place to place, (but without changing character), is via a fluid vehicle. This is the "get aboard and take a ride" method. Of course, the heat is responsible for the fact that there is any ride; it merely uses the flowy substance as a convenient conveyance and shares the burden by lending energy. This arrangement of supplying the power for a hitch-hike is a very common transaction which occurs all the time in weather doings. We will talk of this later under the subject called convection. I know you are, of course, familiar with our old friends the convection clouds (Cumulus).

This is a good place to let our warm subject cool its heels and mark time 'til next issue. We will get further into thermal behavior and weather consequences next month, when we shall go on with this discussion of thermodynamics, and such. (P. S.: No need to fumble for change--that word is prepaid). --Herman P. Meyer, Assistant State Forest Technician.

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U. C. GROVE HAS TALLEST EUCALYPTUS

The tallest known eucalyptus tree in the State is in the Eucalyptus Grove on the Berkeley campus of the University of California. It is 209 feet in height, according to Woodbridge Metcalf, Extension forester.

The grove now contains 113 trees, averaging about 25 inches in diameter, 146.9 feet in height, and 221.4 cubic feet in volume. Eleven of the trees, according to the latest measurements taken by Metcalf four years ago, had individual volumes of five cords or more of wood; the entire grove, if cut, would have yielded 294 standard cords.

The grove was planted in 1884, not for forestry purposes, but as a windbreak for the running track which was then just to the east. Some of the eucalyptus adjacent were about ten years older. The original spacing was about eight feet each way, but the grove has been thinned several times.

The area occupied by the trees is hard to figure, says Metcalf, due to the wide-spreading branches on the outside, but it is approximately one acre. He estimates the mean annual growth per acre has been between five and six standard cords.

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FORESTRY EMPLOYEE KILLED IN BOMBER CRASH

Sergeant Harold Avansino, former Forestry employee at Camino, was killed when a Mather Field B25 medium bomber crashed April 25 in Great Salt Lake. Avansino was crew chief.

Prior to his enlistment in the Air Corps in October, 1942, Avansino was employed as a truck driver, working under direction of State Forest Ranger W. C. Austin. He is survived by his wife, Laura, of Diamond Springs, his mother, Mrs. Alida Avansino, Pleasant Valley, and three sisters. He was a native of Eldorado County.

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Witness: "I think----"

Belligerent Lawyer: "We don't care what you think. What we want to know is what you know."

Witness: "If you don't want to know what I think, I may as well leave the stand. I can't talk without thinking. I'm not a lawyer."

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FIRES DELAY VICTORY

Conducting a State-wide campaign for recruiting volunteers for the Office of Civilian Defense Forest Fire Fighters Service, that agency is endeavoring to assure against a lack of such help in the coming fire season. The FFFS recruiting campaign will be under leadership of County and City Defense Councils, which will be assisted by the FFFS District and County Coordinators, and local officers of Federal, State and County protection agencies.

Official slogan of the campaign, which started May 17, is: FIRES DELAY VICTORY.

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"BUT FIRES ARE MADE BY FOOLS LIKE ME!"

(From Letters From the People, The Sacramento Bee, May 18, 1943)

Forest fires, always a tragic problem, take on an added seriousness in wartime. The government is asking us to remember the slogan--Our carelessness is their secret weapon.

Years ago I spent a summer in Del Norte County. We drove many miles through cathedral aisles of redwoods to a little old French settlement of log cabins. It was cold and dim in the great forest where the tree tops seemed to be touching the sky. A week later we made a swift and dangerous trip through a blazing inferno, wet sacks tied over the horses' heads, men leading them through the worst stretches, wet towels over our faces, sparks falling on us, and every few minutes a thunderous crash as a burning giant fell to the hot earth.

In the Big Sur Country, Monterey County, a man shot a doe and burned the carcass to cover his misdemeanor, starting one of the worst forest fires that glorious landscape had ever known. A passenger threw a lighted cigaret off the little train which formerly ran up to Mt. Tamalpais and one of the trainmen who saw it dropped off at the next stop and ran back to find a fire already beyond his handling. It burned for three weeks and destroyed ranches, homes, millions of dollars worth of property and reduced to gray ashes sequoias which had been growing for 1,000 years.

In every instance the "didn't think" or "don't care" of heedless humans laid waste the glory of Nature. We might well paraphrase Joyce Kilmer's well beloved poem:

Only God can make a tree,
But fires are made by fools like me!

--RUTH COMFORT MITCHELL,
Riverdale, Calif.

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IT'S LIEUTENANT, NOW. . .

A recent graduate of officers' training school in North Carolina, former Assistant Ranger Wm. A. Jamieson is now sporting gold Second Lieutenant bars. Stationed at Camp Callan, Bill says he's glad to be back in Sunny California, the glamor of the South notwithstanding.

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JUNIOR MISS

Adding to the general confusion of the males some 20 years hence, will be young Karen Fellers, sub-deb daughter of Assistant Ranger Charles Fellers of Sonoma County. Karen made her appearance on May 10, and Charlie hasn't been the same since, 'tis reported.

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PRESENTING. . . .

Curtis Lane Lindley, rumored rather shy and retiring just at present, but give him time, just give him time! Assistant Ranger Linwood Lindley of Mendocino County will no doubt look back with a certain nostalgic feeling one of these days to the time when his son, who weighed in at 7 lbs. 5 oz. on May 2, was just a docile little bundle of sweetness--not yet capable of disrupting an otherwise peaceful household with a collection of queer pets, boisterous little boys and a penchant for robbing the cookie jar.

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DIVISION OF FORESTRY MILITARY HONOR ROLL

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EDWARD GUTOWSKI, Assistant Ranger	Kern County
EARL FITZE, Dispatcher	Butte County
FRANK MOORE, Property Inspector	Sacramento County
JOHN LOCKHART, Assistant Ranger	Yolo County
LOUIS BAKER, Technical Office	Sacramento County
THOMAS HENSON, Dispatcher	Calaveras County
SIDNEY ORMSBEE, Assistant Ranger	Santa Cruz County
ROSCOE SAVAGE, Assistant Ranger	Tuolumne County
DAROLD DOWNING, Dispatcher	Humboldt County
WM. JAMIESON, Assistant Ranger	Mendocino County
GODFREY D. GERMAN, Assistant Ranger	Sacramento County
DONALD KNOWLTON, Dispatcher	Mendocino County
N. O. STEPHENS, Assistant Ranger	Fresno County
RUSSELL Z. SMITH, Ranger	San Bernardino County
WALTER BANCHERO, Assistant Ranger	Yolo County
ROBERT FERNALD, Dispatcher	Siskiyou County
HERMAN HAMMACK, Assistant Ranger	Yolo County
JAMES HEINER, Assistant Ranger	Kern County
HARRY TRACY, Assistant Ranger	San Diego County
ARTHUR CRAIG, Assistant Ranger	Kern County
W. W. SKINNER, Ranger	San Bernardino County
MARK SHARER, Assistant Ranger	Eldorado County
ST. CLAIR BOTKIN, Assistant Ranger	Shasta County
LEWIS MORAN, Associate Ranger	Sacramento County
SIDNEY LAMERTON, Associate Ranger	Kern County
BRADFORD WILLIAMS, Assistant Ranger	Tehama County
ROSCOE CURTICE, Assistant Ranger	Tuolumne County
ERNEST RAMIREZ, Assistant Ranger	Yolo County
HAROLD BARR, Assistant Ranger	Yolo County
FRANK JENKINS, Assistant Ranger	Calaveras County
HARRY WARD, Assistant Ranger	Eldorado County
RICHARD HARKNESS, Assistant Ranger	Santa Clara County
JOHN HOEPPEN, Assistant Ranger	Santa Clara County
HARRY McGLAUGLIN, Dispatcher	Eldorado County
LAWRENCE E. RUTH, Ranger	Sacramento County
GERVICE NASH, Assistant Ranger	Santa Clara County
HERBERT S. GILMAN, JR., Asst. Ranger	San Diego County
DONALD LANDON, Associate Ranger	Butte County
PAUL L. HAGEN, Dispatcher	Kern County
WILLIAM H. STEPHENS, Foreman	San Benito County - CASUALTY
PHILIP WALKER, Dispatcher	San Benito County
JAMES REED, Assistant Ranger	Santa Clara County
HOWARD STANFORD, Assistant Ranger	Tulare County
J. HAROLD HUNT, Assistant Ranger	Calaveras County
ALLEN PORTIGAL, Assistant Ranger	Orange County
HAROLD F. WILLIAMS, Dispatcher	Tehama County

California Department of Natural Resources
DIVISION OF FORESTRY

William H. Moore
Director

Sacramento

M. B. Pratt
State Forester

. . . .

Estelle J. Baxter, Editor

VOL. 2, NO. 9 NEWS LETTER JULY, 1943

PRISONERS TO BE FIREFIGHTERS

For the first time in the history of the State Division of Forestry an agreement was intered into this year with the State Board of Prison Directors, under which prisoners from San Quentin, Folsom and Chino will be placed in camps and used for fire protection, fire suppression, maintenance of essential roads and trails, control of blister rust and maintenance and improvement of State Forests.

This agreement was brought about due to demand for personnel requirements of essential war industries and the armed forces of the United States, making it imperative that men for forest protection work be secured with least possible interference with industrial and military operations. Furthermore, it afforded an opportunity to rehabilitate prisoners by requiring them to engage in out-of-door work from which useful training can be derived.

Under terms of this agreement the State will furnish housing, dining room and kitchen equipment, mess gear, stoves, refrigeration, beds and mattresses, work supervision, fuel, lights and transportation to and from the work projects for all camps established, paying the Prison Board $3 flat rate per inmate per day in each camp, provided the same amount shall not be paid for any inmate who through sickness, injury, or any other cause, is not available for the regularly assigned work.

The State will provide personnel to designate the work projects and will supervise the work to be performed by the inmates. In suppression of forest fires, the State will feed the men and deduct 51¢ per man-day, or the proper portion thereof, from the $3 per day paid each man to the Prison Board.

Prison personnel will supervise and manage the camps and commissaries, provide all necessary medical attention and have full jurisdiction at all times of the discipline and control of prisoners performing work under this agreement. The prison guards in charge of the inmates will receive from the State personnel the designation of work to be done and will furnish all available men to do the work.

The work camps will contain 25 men, or such larger number as may be agreed upon. In each instance the location, classification and period of operation will be agreed upon in writing by the State and the Warden or Superintendent of the institution concerned.

In case of fire emergency the warden of the institution concerned will, upon requisition from the State, make available direct from the prisons or from camps other than those established under this agreement, a number of inmates requested or such portion thereof as the warden in his judgment deems available. The State in such cases will establish temporary camps, furnish transportation to and from such camps, supply and prepare food, provide blankets and pay the Prison Board the sum of 45¢ per hour per inmate for work performed on fire suppression.

This agreement further provides that in event the inmates refuse to work or fail for other reasons to accomplish the daily output of work, the warden will, upon request of the State, remove such inmate or inmates from the camp.

There is no responsibility or liability on the part of the State for sickness, accidents or death of inmates engaged in any activity conducted under this agreement, which is for a period of two years.

Locations of approximately twelve camps have been made by the various Deputy State Foresters, and if funds will allow, it is expected that most of these camps will be in operation by July 1.

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A Londoner got on a bus carrying a hundred-pound bomb, and sat down.

"What's that you've got on your lap?" asked the conductor.

"A delayed-action bomb," said the man. "I'm taking it to the police station."

"Blimey!" shouted the conductor. "You don't want to carry a thing like that on your lap. Put it under the seat!"--THE CROWN.

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RHODODENDRON

Rhododendrons, some of them tree-like in form, are common along the north coast of California where they are known as Coast rhododendrons and California Rose Bay. But it remained for Bert Werder, County Fire Warden of San Mateo County, to find the "rhodie", as it is called for short, in the heart of the Santa Cruz Mountains. As far as known, this location is not mentioned in any publications dealing with California flora. This is not strange, however, since the area in which the rhododendrons grow is off the beaten path.

Werder first found these rhododendrons a number of years ago when fighting fire in the Chalks, socalled because of their shale formation which gives a chalky appearance from a distance. This area which lies in the southern part of San Mateo County, was inaccessible except on foot or horseback until the last few years, when a one-way fire road was built into it from Pescadero.

It was my good fortune to go with Deputy State Forester Strickland to view this area during May, under the enthusiastic guidance of Werder. He informed us that a few years ago he piloted John McLaren, founder of Golden Gate Park, into this patch of rhododendrons, and how interested McLaren was in finding them in a location where he never knew they existed. In his opinion, they may be a different species from those in Humboldt and Mendocino counties, judging from their reddish blossoms.

It is interesting to conjecture how rhododendrons happened to occur in this particular spot in the Santa Cruz Mountains with such a wide gap separating them from their habitat along the north coast of California. Like the Torrey Pine of San Diego County, they constitute a floristic island which is a remnant of what was once a continuous body of the same species. What caused the separation no one knows. It was not fire, since the rhododendron sprouts from the root stock after being burned to the ground. Perhaps it was some plant disease that killed off all shrubs except those on the most favored sites, or it might have been that this site has an acid soil, which is a needed requirement for this species.

The site on which the rhododendron grows in the Santa Cruz Mountains is a problem for an ecologist because of the variety of plants found there. At first glance, he would call it an xerophytic site, which means it produces plants that will survive in a very dry soil.

This would be true as regards Knob cone pine, manzanita, and ceanothus, which naturally grow in dry soil, but it is not true with respect to the rhododendron which is a mesophyte requiring much soil moisture. If the puzzled ecologist would take the trouble to dig down a couple of feet through the shale, he would find a moist soil in which the roots of the rhododendron are established. This is what John McLaren found after using some of his renowned Scotch sense.

The afternoon spent among the rhododendrons was a peaceful one, and will be long remembered by me as affording a surcease from the thoughts of bombing and killing that were taking place on that day in so many parts of the world.--M. B. PRATT, State Forester.

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Maybe bragging don't bring happiness, but no man with a big fish ever goes home through an alley.--THE FOREST LOG.

THE BASEBALL PARK THAT BECAME A FOREST

Twenty years ago, the Pacific Gas & Electric Company laid out a baseball park for its employees in a construction enterprise near DeSabla, California, and many a good game was played on this diamond.

Subsequently, however, the field was abandoned, and immediately Mother Nature placed herself in charge. From the trees of a nearby forest, seeds were blown by the wind to the former baseball field.

What happened thereafter is that the seeds grew into trees. They covered second base, they crowded the home plate. They stole from second to third. They covered the outfield.

Today, that former baseball field is part of the forest holdings of the Diamond Match Company. Not a single tree was planted by man on that baseball park; yet hundreds and hundreds are growing there now.

This is a story which deals with only a few acres--but if you will multiply it several hundred million times, you'll see what has been happening in the American forests.

You'll see how it happens that although we have built and re-built our nation largely from the products of the forests, new crops of trees have grown where old crops were removed--except where Man deliberately chose to use the land for some other purpose.

Thus it is that today the forestland in America covers almost a third of all the land area in the nation!

Thus it is that today's commercial forests in America are stocked with more than 500 billion cubic feet of timber, including enough saw-timber to build three times as many six-room houses as all the houses which we now have standing.

In addition, new crops of timber are constantly growing in this vast forest--just the same as a tiny part of that crop is growing where men once played baseball near the town of DeSalba.--AMERICAN FOREST PRODUCTS INDUSTRIES, INC.

. . . .

A drunk watching a revolving door saw a man walk in. Soon the revolving door revealed a pretty girl stepping out.

"It's a good trick," said the drunk, "but I still don't shee what that guy did with hish clothes."

PICTURES TELL THE STORY

To paraphrase an old saying, "The pen is mightier than the sword," our State Forester is of the thought a "Picture is mightier than the word", as witness the numerous fire prevention signs being distributed by the Division of Forestry headquarters.

This quotation has further emphasis in the well known and oft repeated phrase, "Action speaks louder than words".

We might say this last mentioned saying has portrayed the activity of the Division over a period of years, the field men having steadfastly literally pushed the fire line continuously back. This battle has not diminished with the waging of war on the Axis--rather the fire hazard now has an ally in Tojo and Hitler.

We have no need of a fake modesty in reminding the public of our fight on their behalf. Rather it is prudent to keep them ever mindful of our work, as an unenlightened or misinformed public mind increases the hazard we must overcome. The responsibility for public ignorance of the inroads fire is making on crops of the field, and the failure to realize the threat to a future supply for posterity can be charged to those agencies of public service whose operations provide the protection against the destructive hazard, whatever it may be.--W. T. JACOBSON, Assistant State Forest Technician.

. . . .

Wifey (watching a pile driver at work): "Dear, I feel so sorry for those poor men. They have been trying for the last half-hour to lift that thing out, and every time they get it almost to the top, it falls back again."

. . . .

FROM ENGLAND

In a collection of books for our Armed Forces, made by the Sacramento Rotary Club, was one donated by State Forester M. B. Pratt, who inserted a request that any one reading this book write to him if interested. Following is a letter received from one of the book's readers:

V . . . - Mail

Lt. T. G. Wurm,
A.P.O. . . ., New York City,
June 5, 1943

Mr. M. B. Pratt, State Forester,
State Office Building,
Sacramento, California.

Dear Sir:

In listing and marking the books in our special service library I came across "Rich Land, Poor Land" by Stuart Chase. Being interested in this type of work I started to read it and found your name inside. Perhaps you'd be interested to know that your book has been with this outfit in England for 13 long months now. We are being treated exceptionally well by the people, who go out of their way to make this like home for us. We're well fed by the Army, well housed, have good entertainment, plenty of places to go and things to see. All in all, it isn't so bad being away from the states in a land where the people are so much like us. In fact, it isn't like being in a foreign country at all. The word "foreign" seems out of place in describing England.

Perhaps you could help me out a bit in regard to forestry in California. I'm a native and resident of San Francisco, a graduate of the University of S. F., majored in accounting. But I have always been interested in forestry, soil conservation, etc., and should like to get into it after I get home. I have, with this in mind, signed up to study some elementary engineering courses while I'm here. Can you give me any idea of the requirements to get into the State Forestry Division? Maybe there are a couple of booklets or pamphlets that your office puts out that I could use as guides.

Thanks for the book and for any information you can give me.

/s/ LT. T. G. WURM

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CORAL TREE

At the present time there is a tree that looks like a shrub, blooming in Capitol Park (Sacramento), near the sun dial, that is worth seeing. It grows naturally in a semi-tropical region and is subject to frost. For this reason this tree freezes back every year in Sacramento but sprouts up each spring, making it shrub-like in character. As far as known, it is the only one of its kind in the northern part of the State.

Its name is the Coral Tree and it belongs to a genus named Erythrina, which is the Greek word for red, in reference to the color of the flower. Not only are some of the pea-shaped blossoms red and some crimson, but they are borne in long panicles which give them a very showy appearance.

This tree is a native of Brazil where it is often used to shade coffee plantations. In southern California there is a tree of this species in Pasadena, where it is not affected by frost, and where it has reached a height of approximately forty feet.--M. B. PRATT, State Forester.

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Have you heard the one about the moron who sprinkled flower seeds in his hair?

It seems he wanted to be a blooming idiot.

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QUEENS WHO QUENCH FIRE NEVER TIRE

By Naomi Baker

(From San Diego Tribune, May 22, 1943)

"Let's roll, girls," is the equivalent of "Man your battle stations" to San Diego County's first feminine forest firefighting unit--perhaps the first women forest corps in California.

"Manning" the State Forestry Division's San Marcos ranger station are four women, each with a man in the armed forces, and each with avowed determination to battle the Axis ally, fire, until men come home from war and take over the jobs.

Ask Mrs. Gene Pirazzini, of Valley Center, forest fire truck driver who has charge of the San Marcos station, if it is thrilling to "roll" into action on a red fire truck and she grins and replies, "We haven't been bored yet".

Quickly she adds, "This is no lark. We know that in previous years San Diego County has had some bad fires. We're prepared for them if they come. Right now we are 'road burning' (burning brush along roadsides to reduce fire hazard). I think the highway patrolmen will tell you we're no sissies."

The male staff at Valley Center ranger station stands by for San Marcos when the forestry women are road burning.

Garbed in blue denim coveralls, blue denim caps and boys' work shoes, the women know the business end of fire axes and shovels. When they talk about "mopping up" they are not speaking of barracks detail, although they alternate at that. They are talking forestry lingo for shoveling under patches of embers in a burned area so that fire won't flare up again.

Forest and brush fires aren't their only business. They are on call also to fight fire in adjacent communities which are not incorporated cities.

Graduates of an intensive course in firefighting, conducted at La Mesa headquarters under supervision of E. S. Miller, State Forest Ranger in charge of San Diego County, the forest women have had thorough practice under supervision and conduct daily drills, Miller said yesterday. He said the unit would be augmented to eight by June 1.

"We sleep in bunks and live strictly barracks style," says Mrs. Pirazzini. "Our only concession to femininity is window drapes. We take turns at barracks detail and garden detail."

They have a neat lawn and victory gardens flourish on opposite sides of the white, green trimmed frame building which they painted.

Mrs. Eleanor Schnurr of Lakeside is the assistant fire truck driver. She is "Butch" to her forestry sisters.

Mrs. Anita B. Graves of Escondido, called "Babe", and Miss Doris I. Tompkins, nicknamed "Tommy" have the rating of forest firefighters.

They alternate at being "reel girl", whose job is to reel and unreel the hose; middleman, who keeps the hose from misbehaving, and nozzleman.

"They all like to be nozzlemen," says Mrs. Pirazzini. "The nozzleman gets to ride in the front of the fire truck."

First of the four to join the forest service was Mrs. Pirazzini, whose husband, A. P. Pirazzini, is a former assistant state forest ranger.

"I joined the forest service last January 1 to find out what women could do as firefighters," says Mrs. Pirazzini. "I found out on January 6 when I served as crewman on the three-day Fallbrook fire."

"Women with a sense of responsibility who want to do their share toward winning the war can do this work. We at the San Marcos station are war conscious. Our husbands are servicemen and so is Tommy's fiance. We serve eight-hour shifts on a 24-day basis, and we are on call all the time. Yes, we're busy, but we find time to write to our men. We are buying war bonds, too."

On her evenings off, Mrs. Pirazzini conducts three civilian defense classes to train auxiliary firemen in nearby communities.

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WEATHER WISE

Let's see, where did our story end last time? Oh yes, we were deep in the land of heat, which, we shall recall, was right down at the bottom of things in this weather business. We were making an inspection of the means by which "cold" heat, as a ray, rode or streaked through space via a sort of fast express, invisible magic carpet.

We observed that "hot" heat of another form sauntered about right through substances and passed around by contact--a kind of settling and spreading process (conduction traveling). It was noted, without taking time to examine how, that heat urged warmed up sections of fluids to get up and go places, with "old promoter heat" as passenger.

This was called convection; and we said something about returning to talk more about that matter later. Today is later and there is no time better than the present to gossip about this behavior of nature. Heat has been putting this sort of thing over on the world for a long time now. We'll look into it.

Heat is really very funny stuff. But maybe we shouldn't say "stuff". It's a. . . it's a . . . . well, you name it. But you had better label it by types and phases. Sometimes it's hidden, sometimes it's apparent, sometimes it's hot, sometimes it's cold. It is worse in this regard than a politician straddling the fence on some hot issue around election time, and we might mention, it is equally, though more subtly, irresistable.

Even more interesting (or at least to us) than what heat is, however, is what it does. For instance, just to take one item, heat puts an unavoidable swell in things generally.

Consider the pop in the life history of a kernel of popcorn. Reflect upon the rise in a thermometer's mercury column on a warm day. Do you remember pouring the water that was too hot on the glass tumbler, which thereupon ended its career? Then there was that nasty stove all covered with charred "goo" which served as a reminder that hot ovens cause full pie tins to become too full.

In the paper, we read of poor Mr. Jones' dwelling in which the hot water tank and heater combination got too hot and carried away the aft portion of that residence. Too, we accept as commonplace the fact that heat puffs up water which in turn pulls tons and tons of train. Oh, heat is mighty bloating in its effects, as I hardly need remind you.

Now, all the heat in the universe, despite the aforementioned facts, doesn't weigh a thing. Perhaps that is why heat isn't "stuff".

When heat gets into something and inspires it with a craving to occupy more space, the expanded what-cha-ma-call-it actually becomes relatively lighter. The total substance, to be correct, weighs the same as it did cold. However, in the warmer state, there is more of it, at least in a volume sense. So, you see, each one of the now more numerous cubic inches, having grown from something less, is necessarily less dense, i. e., weighs less for the space occupied.

This is not exactly a trivial thing, insignificant as it might seem at first glance. The little phenomena we have been discussing accounts, not partially, but entirely for the gigantic circulation of our atmosphere; the clouds, the rain, the whole bloomin' works.

You can thank the stretcher-outer effects of heat for every gentle zephyr, every dust devil, every breeze, every gust or blow, including hurricanes or tornadoes. Why? Well, we won't tell the whole story at this sitting, but we do currently have more to say regarding this business of heat-swell in relation to convection.

When masses are heated, they are not warmed equally all over. But rather, the temperature increase is greatest locally, in the neighborhood closest to the heat source. The warmer portion becomes differentially less dense, as has been said.

In the case of fluids free to circulate, if heat is applied, the "heat-inflated" fraction, becoming relatively lighter, is buoyed toward the upper surface of the mass. Any colder part above, being heavier, will tend to flow around the sides, downward and in underneath. This action is like the example of water lifting the submerged cork, to which we made reference in an earlier issue.

Heated fractions are lighter fractions. So, may we not say that "fluidly speaking" it is the destiny of any such hot-shot element to rise among the upper crust or top strata taking along the heat to promote this ascension. It might be suggested in a rather facetious vein that heat provides a "swell" pass for a fluid sky ride. Ask the convection expert--the fellow who owns a glider. In fact, stand to one side and ask the sea gull or even the soaring bird of prey. Do you remember hearing that the first balloons were not filled with hydrogen or helium, but only with hot air?

More commonly than not, heat is applied upon bottom surfaces of fluids whereon the mass rests. This is equally true of a pan of water being heated on the stove or of the atmosphere resting upon the sun-warmed earth.

In cases of bottom heating, according to the logic of our discussion, there results a gravitational instability between the warm lower and the cool upper layers. Simply a matter of light stuff below, heavy stuff above, and nothing to keep the parts from swapping places.

So we get an up-current above the point or area of greatest heating and a compensating downflow over cooler spots. There is also a latteral or sidewise flow, and if confined, as in a pan, the fluid circulates round and round, like the music that is put in here and comes out there. Makes a person think of his circulating heater, doesn't it?

The vertical currents (up and/or down) are called convections. Watch 'em operate on a good hot day over the higher rides where rising air ascending both sides of the mountain goes skyward at the top. Those big white things that rise majestically in mid-afternoon and then disintegrate as the day cools off are called convection clouds. It's funny how they toss bolts of electricity around, isn't it?

Yes, it's a strange world, complicated, but not too much so if we sit down and seriously try to unravel the rhyme and reason in it. The whole business (nature) is very orderly and self-consistent. Different from much of man-made existence; sort of restful to contemplate sometimes in a leisure moment.--HERMAN P. MEYER, Assistant Forest Technician.

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RANGER! HOW ABOUT THAT BADGE?

Amos received his appointment as Fire Warden of the town of Mad River. He was presented with a badge by the Chairman of the selectmen, with the customary instructions to be sure and wear the badge as a symbol of authority.

After a few weeks had passed, a telephone call came from the watchman on the lookout station that a small fire had started about three miles up the valley where there was a large amount of slash covering several acres.

Amos proceeded to where the blue curling smoke was seen in the distance. He arrived at the fire in record time equipped with two extinguishers. Some embers had rekindled near the roadside where a careless traveler had built a fire; perhaps to warm a drink. A brisk wind was blowing the live embers among the grass and dry leaves.

Amos paused for a moment giving no attention to the small brush fire which could be stamped under foot; then made haste back to the village which was three miles away.

The men of the town seeing large volumes of smoke realized that Amos had a bad brush fire to fight, so volunteered their services. When the fire warden returned the second time the fire had gained such headway through the dry slash that it was beyond control.

The chairman of selectmen who had expected so much from Amos as a firefighter approached him with a rather disappointed expression. "Amos, why didn't you put out the fire when you got here first?"

Amos looked up and said, "I forgot my badge."--A. W. SPRING, LACONIA, N. H.

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Pend Oreille Forest Protection Association is employing interned Italian nationals on brush piling and other protective work in northern Idaho. Housed in a former CCC Camp, the internees are paid $55 per month plus food supplies. The first crew is reported to be doing excellent work and it is hoped to add another 50 men to the project.--THE TIMBERMAN.

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TRANSFERS:

Ranger Edwin P. Biggs--Yuba County to Butte County
Ranger Willard C. Austin--Eldorado County to Monterey County
Ranger Malcolm Dixon--Amador County to Eldorado County
Ranger Ed Nelander--Riverside County to Sacramento County
Assoc. Ranger Wm. F. Mann--Butte County to Yuba County
Assoc. Ranger Wm. Pennington--Santa Clara County to Tulare County

DIVISION OF FORESTRY MILITARY HONOR ROLL

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EDWARD GUTOWSKI, Assistant Ranger	Kern County	
EARL FITZE, Dispatcher	Butte County	
FRANK MOORE, Property Inspector	Sacramento County	
JOHN LOCKHART, Assistant Ranger	Yolo County	
LOUIS BAKER, Technical Office	Sacramento County	
THOMAS HENSON, Dispatcher	Calaveras County	
SIDNEY ORMSBEE, Assistant Ranger	Santa Cruz County	
ROSCOE SAVAGE, Assistant Ranger	Tuolumne County	
DAROLD DOWNING, Dispatcher	Humboldt County	
WM. JAMIESON, Assistant Ranger	Mendocino County	
GODFREY D. GERMAN, Assistant Ranger	Sacramento County	
DONALD KNOWLTON, Dispatcher	Mendocino County	
N. O. STEPHENS, Assistant Ranger	Fresno County	
RUSSELL Z. SMITH, Ranger	San Bernardino County	
WALTER BANCHERO, Assistant Ranger	Yolo County	
ROBERT FERNALD, Dispatcher	Siskiyou County	
HERMAN HAMMACK, Assistant Ranger	Yolo County	
JAMES HEINER, Assistant Ranger	Kern County	
HARRY TRACY, Assistant Ranger	San Diego County	
ARTHUR CRAIG, Assistant Ranger	Kern County	
W. W. SKINNER, Ranger	San Bernardino County	
MARK SHARER, Assistant Ranger	Eldorado County	
ST. CLAIR BOTKIN, Assistant Ranger	Shasta County	
LEWIS MORAN, Associate Ranger	Sacramento County	
SIDNEY LAMERTON, Associate Ranger	Kern County	
BRADFORD WILLIAMS, Assistant Ranger	Tehama County	
ROSCOE CURTICE, Assistant Ranger	Tuolumne County	
ERNEST RAMIREZ, Assistant Ranger	Yolo County	
HAROLD BARR, Assistant Ranger	Yolo County	
FRANK JENKINS, Assistant Ranger	Calaveras County	
HARRY WARD, Assistant Ranger	Eldorado County	
RICHARD HARKNESS, Assistant Ranger	Santa Clara County	
JOHN HOEPPEN, Assistant Ranger	Santa Clara County	
HARRY McGLAUGLIN, Dispatcher	Eldorado County	
LAWRENCE E. RUTH, Ranger	Sacramento County	
GERVICE NASH, Assistant Ranger	Santa Clara County	
HERBERT S. GILMAN, JR., Asst.Ranger	San Diego County	
DONALD LANDON, Associate Ranger	Butte County	
PAUL L. HAGEN, Dispatcher	Kern County	
WILLIAM H. STEPHENS, Foreman	San Benito County	- CASUALTY
PHILIP WALKER, Dispatcher	San Benito County	
JAMES REED, Assistant Ranger	Santa Clara County	
HOWARD STANFORD, Assistant Ranger	Tulare County	
J. HAROLD HUNT, Assistant Ranger	Calaveras County	
ALLEN PORTIGAL, Assistant Ranger	Orange County	
HAROLD F. WILLIAMS, Dispatcher	Tehama County	
ARTHUR PIRAZZINI, Assistant Ranger	San Diego County	
HERBERT B. KAUFNER, Associate Ranger	Shasta County	
WM. T. (JAKE) JACOBSON, Asst.Technician	Sacramento County	

California Department of Natural Resources
DIVISION OF FORESTRY

William H. Moore
Director

Sacramento

M. B. Pratt
State Forester

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Estelle J. Baxter, Editor

VOL. 2, NO. X [10] NEWS LETTER AUGUST, 1943

INDIAN SERVICE, STATE, COOPERATE

Two cooperative firefighting agreements between the Office of Indian Affairs, Department of the Interior, and the Department of Natural Resources, Division of Forestry, have been completed.

One of the agreements, concerning the Round Valley Indian Reservation, Mendocino County and the adjacent State Protection Area provides that the State Forest Ranger in Mendocino County shall supervise and direct the detection and suppression of fires on the Round Valley Indian Reservation. He will advise the Sacramento Indian Agency of the extent and cost of suppression of any fire involving special expense. Such fires are defined as those where temporary firefighters are employed.

The Indian Service will reimburse the State for all expenditures incurred by State protection forces in suppression of forest fires on trust or tribal lands on the reservation. When both Indian and State lands are involved, the cost will be prorated on an acreage basis.

In calculating the amount expended by the State, the following elements are included:

1. Wages of all seasonal and per diem employees but not those of regular State personnel such as guards, lookouts and patrolmen paid out of regular or work relief funds.

2. Cost of transporting and hiring of pack and saddle stock.

3. Transportation costs of outside labor and travel expenses of regular personnel.

4. Cost of replacing and reconditioning all equipment or tools necessitated by use on the fire.

This agreement went into effect May 1, 1943, continuing in force and effect until terminated by execution of a revision thereof or by written notice by either party to the other.

The other agreement is with the Mission Indian Agency, headquarters of which are at Riverside and which embraces a number of Indian reservations in Southern California. It covers zones of mutual interest which are State or Indian lands upon which a fire would endanger the lands of the cooperating services.

The agreement provides for annual fire plans to be made by the various State Forest Rangers and Indian Service Superintendents in order that each agency may be fully acquainted with the facilities of the other.

Where either agency suppresses a fire on the lands of the other agency with its regular personnel, no charge will be made for cost of suppression. When a fire burns entirely on the lands in the protective unit of one service, that service will reimburse the other for direct expenditures incurred by it whether such work is done on request or otherwise.

When a fire burns on protective units of both services the expenditures for suppression will be adjusted between the two on acreage burned by the fire, irrespective of any area burned on lands not held by either service.

Calculations of the amount expended by such service are on a similar basis as those for the agreement made by the Round Valley Indian Reservation in Northern California. As in case of that agreement, the agreement with the Mission Indian Agency continues in force and effect until terminated by written notice by either party to the other.

This is the first time that agreements of this kind have been made with the Indian Service. It should afford the means whereby Indian lands and adjoining State lands can be adequately protected through mutual consent.

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Two negroes were discussing their chances of being drafted.

"Tain't gwine to do 'em no good to pick on me," said Sam, "'Cause I ain't gwine to do no fightin'! Ah ain't lost nothin' in dem countries and dey can't make me fight."

"Yo' may be right," replied Mose, "Uncle Sam can't make you fight, but he can take yo' where de fightin' is an' den yo' use yo' own judgment."

ANOTHER LETTER VIA V. . . - MAIL

Received by State Forester M. B. Pratt was the following letter from Lt. T. G. Wurm, who last month requested information concerning forestry work:

"Dear Mr. Pratt:

" Thank you for your informative and helpful letter of June 22d. Whether or not I enter, or try to enter, the State Division of Forestry, I intend to study it by correspondence course while I am out of the States. I feel that there is a great future in forestry and it is a subject that has always greatly interested me.

" I shall be pleased to stop in when I return and see if there is any position open, as you suggest. In the meantime there's a job to be done over here, and I feel confident that we just about have it licked.

Very sincerely,

1/Lt. T. G. WURM, A.C. "

. . . -

Bill Fox may well be called the champion optimist. He was sitting on the roof of his house during a flood, watching the water flow past, when the neighbor who owned a boat rowed across to him.

"Hello, Bill!" said the man.

"Hello, Sam!" replied Bill, pleasantly.

"All your fowls washed away this morning?"

"Yes, but the ducks can swim."

"Orange trees gone, too?"

"Yes, but everybody said the crop would be a failure, anyhow."

"I see the river's reached above your windows, Bill."

"That's all right, Sam," was the reply. "Them windows needed washin'."

. . . -

NOW THEY'RE BURNING BEACHES!

We thought we'd heard everything, until, that is, State Forest Ranger James Glenn, Humboldt County, related the following tale:

One Sunday this month the crews had just returned from a fire and were sitting down to dinner when the United States Coast Guard called and advised that the beach was on fire south of the Cape Mendocino Lighthouse. The dispatcher was rather taken aback by this report and asked for additional information. The terse answer was: "We know the beach is on fire, so please send us some men and equipment at once".

Assistant Ranger Dunwoody, with two trucks, immediately proceeded to the scene of the fire. Upon his arrival there, one hour later, he in turn called the Fortuna office and stated he needed additional equipment and help as the beach was on fire for a quarter of a mile.

Additional equipment was dispatched, Ranger Glenn going along to see what was happening that would set a stretch of sand on fire. His curiosity was satisfied when he discovered that the Coast Guard had decided to burn a little trash and garbage that morning, igniting the fire and returning to barracks thinking the fire had been put out when the trash was burned.

Some two hours later they realized that the driftwood, an accumulation of fifteen to eighteen years, had ignited and they had a bad fire on their hands. For three or four hours they labored to bring the blaze under control, but due to their limited equipment, the fire increased in intensity instead of abating.

When Division of Forestry equipment arrived the situation was rapidly going from bad to worse as the tall range grass growing down to the beach became ignited.

The crew confined their efforts to controlling the fire on the range. After picking that up, they turned to extinguishing the driftwood. Due to an unlimited supply of water two pumpers were kept in continuous action, with one truck hauling water. With the aid of some jeeps and a couple of chokers, the piles were pulled apart and if the logs were not too big, the jeeps hauled them across the beach into the breakers.

The greatest difficulty was incurred trying to extinguish the fire in some of the old logs of four to six foot diameter. Even with the aid of two jeeps and wenches it was impossible to move many of them. It was necessary to lay lines from the truck on to the beach and drown out the fires.

It was 1 o'clock the following morning before the fire was officially out, with the weather doing all possible to add a handicap. Humidity was around 25, with a 40 to 50 northwest wind blowing. And that's not exactly what one can call good weather for fighting fires--on or off beaches.

CHAPARRAL AND CHAMISAL

By F. P. Cronemiller, U. S. Forest Service, San Francisco, Calif.

Chaparral is a term commonly used in California for the dense brushfields found generally in the mountains in the southern part of the State and in the foothills of the Sierras and north Coast Ranges. The term has been applied in a number of localities incorrectly to individual species, generally Ceanothus. The origin of this term is extremely interesting, and it seems worth while to present it in order that it can be more generally understood and perhaps uniformly applied.

Chaparral evolved from chabarra, the Basque word for a scrub oak of the Pyrenees. The Spaniard adapted it to "a dwarf evergreen oak" and spelled it chaparro. He did not develop the word "chaparral", however, until he reached the New World. On his arrival, he was faced with a tremendous job of inventing place names. The vast number of saints furnished an abundance of names for important places, while descriptive terms were given to those of secondary importance. The convenient suffix -al, meaning "place of", naturally was often used.

Pinal, Alisal, Sausal, designated pine groves, sycamore flats, and willow thickets. For the dense evergreen scrub oak thickets, chaparral was used. Quickly the term came to be applied to other brushfields, and this is its usage today. Generally the proper meaning has adhered: a place (brushfield) of evergreen shrubs or dwarf trees.

In addition to chaparral the Spanish Californian used a term, chamiso (or chamisal), to designate open brush areas composed of small shrubs. The original term, chamiza, meant simply "kindling wood". It is not certain that he ever got entirely away from this meaning, but the vaquero used it in opposition to chaparral. His definition of chamiso was that kind of brush one could ride a horse through; while one could not ride through chaparral.

In New Mexico, chamiso refers to a saltbush and in Mexico to other species. Californians anglicized the word to "chamise" and applied it to but a single species, and there it is quite firmly fixed.

. . . .

"Truth is stranger than fiction," said the serious citizen.

"Naturally," replied Senator Sorhum, "it's so much scarcer."--CALIFORNIA CATTLEMAN.

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BLISTER RUST

By State Forester Merritt B. Pratt

Fresh home from a four-day inspection of several blister rust control camps in Northern California, I bring back a sharpened concept of another phase of forest protection and its correlation to our basic problem of fire control.

In company with W. V. Benedict, in charge of blister rust control work in the Pacific Coast Region for the Federal Bureau of Entomology and Plant Quarantine, and L. K. Wright, Assistant Chief of that activity from Washington, D. C., I had an opportunity to see first hand the control work being done at five of the 30 camps now in operation in the sugar pine region.

Our itinerary took us first to the Eldorado operation where we visited the ribes eradication work being done from the Butcher's Corral and Davis Cabin camps in the young pine stands on privately cut-over lands along the Georgetown Divide. From the Eldorado we proceeded to the Plumas and Lassen operations where we visited the Frosty Hollow camp in Yuba County, the Lost Creek camp of the National Park Service in Lassen Park, Mill Creek camp near Morgan Springs in Tehama County, and the Humbug Prison camp in Plumas County.

Our trip took us through cut-over lands of several of the large lumber companies, extensive virgin forests of sugar pine along the west front of the Plumas-Lassen forests, and the high altitude silver pine and timberline white bark pine along the upper slopes of the Lassen Buttes. While in Lassen Park I kept a sharp lookout for the true larch, LARIX, that Jim Mace reports growing there, as well as questioning several locals who know the area, but received no evidence of the present of larch. I am inclined to believe that Jim may be confusing the true larch with mountain hemlock or lodgepole pine.

The systematic method used by the blister rust control crews in lining out an area for ribes eradication work was impressive. Control procedure, as observed in the field and amplified through explanations by the field supervisors, is about as follows:

First an advance check is made of a section of land by a specially trained man called a checker. The checking job is much like that of cruising timber in which the inspector or checker runs sample strips across a section of land, recording ribes bushes as he encounters them on his strip. The information obtained by the advance check furnishes the basic information on ribes abundance and distribution needed in planning camp location, and number of men needed to remove the ribes from different work units. In other words, the advance check outlines the areas where the ribes occur and the size and kind of a job facing the eradication crews in getting them out. The checker unwinds a spindle of red twine around each section to be worked to clearly identify the section line boundaries.

The second step is division of a section into work units. Generally, the section is divided into quarters by further use of red twine run from the quarter corners. The quarter sections may or may not be further subdivided, depending upon the number of ribes and amount of brush present on the area. When the work units have been laid out the third step is that of ribes eradication. One or more eradication crews are assigned to each unit. The standard crew consists of three men, although crews of somewhat larger size are used on occasion.

Crews work abreast in a sort of echelon formation, the crew members spaced from 10 to 30 feet apart, depending upon brush cover and ribes abundance. One flank man follows the red string line forming one of the boundaries of the work unit; the other unwinds a spindle of white twine as the crew proceeds across the unit.

In this manner the crews crisscross the work unit until the entire area has been thoroughly covered. Each man in a crew carries a special grubbing tool needed in eradicating the deep-rooted ribes. It is necessary to grub out all large roots to prevent sprouting.

The fourth and final step is that of again checking the area to see that a sufficiently thorough ribes eradication was done to provide effective protection from rust damage.

Until I had this opportunity to inspect a blister rust control operation I had the idea it was necessary to destroy all ribes in a work unit, and I must confess to some misgivings as to the practical limitations of such an undertaking.

It seems, however, that effective control of the blister rust can be had somewhat short of the complete elimination of ribes. As explained to me, the number of ribes that can be permitted on an area is based on several factors such as density and size of timber or brush cover in which they grow and size and species of ribes present.

As a general rule if the ribes are reduced to a few small scattered bushes per acre and kept suppressed to that low level, effective control of blister rust is assured. Some infection will, of course, likely result from these few ribes, but insufficient to cause material pine damage.

Most of the blister rust crews this year are high school boys, similar to those we employed on our fire suppression crews. The seasonal camp leaders are high school teachers and a group of camps are under general supervision of regular year-long staff members of the Federal agency supervising the work. The boys live in tent camps with from 30 to 50 boys in each camp.

There are thirty camps and 1500 workers engaged on blister rust control work in this region this season. Eight of the camps are financed jointly by the Bureau of Entomology and Plant Quarantine, the State of California, and by contributions from three lumber companies. These camps are working on private lands. The remaining camps are financed from blister rust allotments made to the United States Forest Service and to the Interior Department and are located on Federal lands under jurisdiction of those two agencies. The work of all camps is coordinated by technicians of the Bureau of Entomology and Plant Quarantine.

I returned from this trip, not only with a much better understanding of the job of blister rust control, but with a first hand glimpse of a big job going forward at a good pace on a soundly conceived basis. I am more than ever convinced of the importance of the job and the advisability of the State accepting a responsible position in carrying forward the control program.

While we were on this trip we also had a chance to observe the role played by the blister rust crews as a second line of defense during a bad fire outbreak.

Deputy Forester Jim Mace at Redding had three big fires under way at one time and crews from six blister rust camps were dispatched to assist in the suppression work. I was told the blister rust boys turned out a good job on the fire line.

After seeing them at work digging ribes I can understand why they work well on a fire. The job of hiking across the mountains day in and day out grubbing out ribes is good conditioning for firefighting and the crews come to the fire in organized groups under their own leaders. Thus a dual protection job is carried out with blister rust crews---the regular work of ribes eradication during normal periods and the emergency work of firefighting during the dangerous fire periods.

As the protection program of the State develops, further thought might well be given to the expanded use of blister rust crews in the dual capacity of meeting two essential protection jobs.

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DAULTON FIRE

Burning 2160 acres of excellent grazing land, the Daulton fire, Madera County, on June 29 caused loss of 24 head of registered cattle, a most unusual feature on a fire of this kind. Total damage caused by the conflagration was estimated at $7600.00.

Starting at 12:30 p.m. June 29, the fire was two miles long before Division of Forestry trucks, travelling at the required speed of 35 miles per hour, could reach the scene.

Extreme heat, coupled with up-canyon drafts, apparently paralyzed the cattle. Standing stiff-legged, they were engulfed by flames. Local cattlemen attributed failure of the cattle to escape to the intense heat of the fire.

The blaze was brought under control in three hours but many ranchers in the locality stated that but for the snail-like pace of Division of Forestry fire trucks on their way to the fire, the loss could have been materially reduced.---State Forest Ranger Charles P. Campbell.

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LAW ENFORCEMENT

Below is a brief summary of the law enforcement activities of the State Division of Forestry for the first six months of 1943:

Number of cases	199
Days, jail sentences served. . .	1630
Fines collected	$ 125
*Days, jail sentences suspended	200
*Fines suspended	$ 200
Suppression costs collected	$7,215.75
Juvenile cases	1

*Suspended sentences and fines in addition to days served and fines collected.

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DIVISION OF FORESTRY MILITARY HONOR ROLL

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EDWARD GUTOWSKI, Assistant Ranger	Kern County
EARL FITZE, Dispatcher	Butte County
FRANK MOORE, Property Inspector	Sacramento County
JOHN LOCKHART, Assistant Ranger	Yolo County
LOUIS BAKER, Technical Office	Sacramento County
THOMAS HENSON, Dispatcher	Calaveras County
SIDNEY ORMSBEE, Assistant Ranger	Santa Cruz County
ROSCOE SAVAGE, Assistant Ranger	Tuolumne County
DAROLD DOWNING, Dispatcher	Humboldt County
WM. JAMIESON, Assistant Ranger	Mendocino County
GODFREY D. GERMAN, Assistant Ranger	Sacramento County
DONALD KNOWLTON, Dispatcher	Mendocino County
N. O. STEPHENS, Assistant Ranger	Fresno County
RUSSELL Z. SMITH, Ranger	San Bernardino County
WALTER BANCHERO, Assistant Ranger	Yolo County
ROBERT FERNALD, Dispatcher	Siskiyou County
HERMAN HAMMACK, Assistant Ranger	Yolo County
JAMES HEINER, Assistant Ranger	Kern County
HARRY TRACY, Assistant Ranger	San Diego County
ARTHUR CRAIG, Assistant Ranger	Kern County
W. W. SKINNER, Ranger	San Bernardino County
MARK SHARER, Assistant Ranger	Eldorado County
ST. CLAIR BOTKIN, Assistant Ranger	Shasta County
LEWIS MORAN, Associate Ranger	Sacramento County
SIDNEY LAMERTON, Associate Ranger	Kern County
BRADFORD WILLIAMS, Assistant Ranger	Tehama County
ROSCOE CURTICE, Assistant Ranger	Tuolumne County
ERNEST RAMIREZ, Assistant Ranger	Yolo County
HAROLD BARR, Assistant Ranger	Yolo County
FRANK JENKINS, Assistant Ranger	Calaveras County
HARRY WARD, Assistant Ranger	Eldorado County
RICHARD HARKNESS, Assistant Ranger	Santa Clara County
JOHN HOEPPEN, Assistant Ranger	Santa Clara County
HARRY McGLAUGLIN, Dispatcher	Eldorado County
LAWRENCE E. RUTH, Ranger	Sacramento County
GERVICE NASH, Assistant Ranger	Santa Clara County
HERBERT S. GILMAN, JR., Asst.Ranger	San Diego County
DONALD LANDON, Associate Ranger	Butte County
PAUL L. HAGEN, Dispatcher	Kern County
WILLIAM H. STEPHENS, Foreman	San Benito County - CASUALTY
PHILIP WALKER, Dispatcher	San Benito County
JAMES REED, Assistant Ranger	Santa Clara County
HOWARD STANFORD, Assistant Ranger	Tulare County
J. HAROLD HUNT, Assistant Ranger	Calaveras County
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WM. T. (JAKE) JACOBSON, Asst.Technician	Sacramento County

California Department of Natural Resources
DIVISION OF FORESTRY

William H. Moore
Director

Sacramento

M. B. Pratt
State Forester

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Estelle J. Baxter, Editor

VOL. 2, NO. 11 N E W S L E T T E R SEPTEMBER, 1943

STATE, FEDERAL GOVERNMENT ENTER INTO COOPERATIVE AGREEMENT

Concerning some 5,727,485 acres of privately-owned and State-owned forest, brush and grass lands located within national forest lands was the agreement entered in to by the State Division of Forestry and the U. S. Forest Service during June. The land mentioned is for the most part outside the legal boundaries of the national forest lands protected by the State Division of Forestry. Thus the U. S. Forest Service will take over fire protection of these lands where State responsibility ends.

Amount paid by the State for the fire protection given by the United States Forest Service amounts to $85,013.27 for the fiscal year beginning July 1, 1943.

The acreage to be protected by the Forest Service under this agreement is approximately 533,000 acres less than that protected in 1942 due to changes in the pay boundary line in northern California under which the State Division of Forestry assumes this obligation.

In the agreement the U. S. Forest Service agrees to provide fire protection of the same degree as that provided similar national forest lands except lands of the recreational home owners around Lake Tahoe or those privately owned lands classified as industrial operating areas as defined in the agreement.

Chief provisions of the agreement are:

"The endeavors of the State Division of Forestry in fire protection as a field organization will be directed mainly to the protection of areas outside the National Forest pay protection boundaries.

"The Forest Service's primary duty is the protection of National Forest land, but under conditions hereinbefore provided it will also protect certain intermingled and adjacent privately and State-owned forest land falling within the agreed upon National Forest pay protection boundaries where the Forest Service organization is the logical protection agency.

"Each organization will, without charge, except as hereinafter provided, give the other all reasonable assistance in the suppression of fires occurring along or near the boundaries between the State and Federal zones. In so far as is practicable this cooperation should be provided for in fire plans or memoranda of understanding prepared by local Federal and State Officers. The initial action and pay protection boundaries should be clearly understood and shown on maps accompanying the memoranda or local plans.

"Neither the State nor the Forest Service will issue burning permits for land under the protection of the other. Requests for burning permits will be forwarded or brought to the attention of the party responsible for the fire protection of the area involved in the burning permit."

. . . . .

The new play was a failure. After the first act many left the theater; at the end of the second most of the others started out. A cynical critic, as he rose from his seat, raised a restraining hand.

"Wait!" he loudly commanded. "Women and children first."

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WEATHER WISE

At the last discussion concerning this gas-gowned sphere of ours we noted air shifted from place to place because of pressure differences caused by heating and cooling. We learned this involved density, buoyancy, convection and so forth, all wrapped into one dynamic system.

Winds, we saw, were like the dense cold air which rushes through the draft of a furnace into the fire box wherein pressures have been reduced by lowered gas densities. The gas in not "sucked in", but pushes into the heated area, a matter brought about by its heavier density and higher pressure settling downward and outward, forcing the hot gas up and out the stack. A long stack merely keeps the hot gasses from losing heat and getting cooled down again in a hurry. Thus a high chimney means a better draft, i.e., more low level inrushing "wind".

This same sort of lifting phenomenum is taking place in the atmosphere all over the world all the time, but there are no walls or chimneys and the whole process is invisible except that we see the consequences in weather. In order to check up on the implications of this air-roaming phenonenum, let us do a bit of summarizing in line with our past observations.

We know that when we compress air, or any other gas, it is warmed in so doing. We are well aware of the fact that the pressure of the atmosphere at any height is due to the weight of the air above and becomes less with elevational increases. We always did know that air possesses the capacity for great compressability and we were therefore correct in assuming it should, for this reason, be denser at low levels than aloft. We early talked about the fact that to heat a gas, which carries a certain amount of moisture, is, at the same time, to increase its apparent dryness.

Thus, adding this picture together, we see that if for any reason a body of air sinks to lower levels its pressure increases due to the mounting weight of the greater quantity of air above. It follows, accordingly, that this sinking air is compressed and as a result becomes warmer. This means, simultaneously, a drop in relative humidity.

Conversely, if air is lifted, as by convection, expansion takes place to keep pace with pressure decreases. This causes the temperature to drop in accordance with the adiabatic effect, the saturation point comes closer to the fore and results in a humidity increase.

Now if the process just described goes far enough, so that the apparent moisture content increases to the dew-point, the air becomes saturated, with a relative humidity of 100%, and condensation (cloud or fog formation) commences.

Localized convectional lifting to the point of condensation is exactly what takes place almost daily over our high Sierra and upper Coast Range mountain tops in midsummer. This same thing is the expected mid-afternoon development throughout the tropics, where the heat causes convection to be general.

We are rather familiar with the idea that high pressure areas, the "anticyclones" of the weatherman, are warm and dry and the mark of fair weather. These immense whirling air masses, common travelers over temperate regions, are given over to general subsidence (settling downward). It should be clear from what we have just been saying, therefore, why "highs" bring the weather that they do, warm, dry and with clear skies. With sinking air the rule such visiting atmospheric masses could not escape bringing about moisture decreases.

On the other hand, "lows", also temperate zone travelers, whirling in a direction opposite from that of the highs, associate with wholesale lifting plus, of course, cooling aloft. Thus, overcast skies and higher humidities, together with more or less precipitation, are typical of low pressure areas.--Herman P. Meyer, Asst. Forest Technician.

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FIRE CONTROL

A comparative record of forest and structural fires for 1941, 1942 and 1943, as of July 31, 1943, fought in California by the Division of Forestry is:

Number of fires

	1941	1942	1943
Forest	2887	2932	3468
Structural	1109	1352	1328
Totals	3996	4284	4796

Acres burned

Timber	225	152	3854
Brush	18,781	189,318	107891
Grass	88,016	169,077	130884
Hay and grain	3,449	4,370	6191
Totals	110,471	363917	248910

Damage in dollars

Timber	$ 531	930	8790
Range	37098	74495	80516
Hay and grain	46204	75301	172326
Improvements*	43527	203719	403223
Structural**	2,542374	1941013	2084421
Totals	$ 2,669734	2295458	2749276

*Damage as result of forest fires
**Damage by purely structural fires

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A CONE OF THE BIG TREES

By Bret Harte

Brown foundling of the Western wood,
Babe of primeval wildernesses!
Long on my table thou has stood
Encounters strange and rude caresses;
Perchance contented with thy lot,
Surrounds now, and curious faces,
As though ten centuries were not
Imprisoned in thy shining cases.

Thou bring'st me back to halcyon days
Of grateful rest, the weak of leisure,
The journey lapped in Autumn haze,
The sweet fatigue that seemed a pleasure,
The morning ride, the noonday halt,
The blazing slopes, the red dust rising,
And then the dim, brown, columned vault,
With its cool, damp, sepulchral spicing.

Once more I see the rocking masts
That scrape the sky, their only tenant
The jay-bird, that in frolic casts
From some high yard his broad blue pennant.
I see the Indian files that keep
Their places in the dusty heather,
Their red trunks standing ankle-deep
In moccasins of rusty leather.

I see all this, and marvel much
That thou, sweet woodland waif, art able
To keep the company of such
As throng my friend's--the poet's--table;
The latest spawn the press hath cast--
The "modern Popes," "the later Byrons"--
Why, e'en the best may not outlast
Thy poor relation--Sempervirens.

Thy sire saw the light that shone
On Mohammed's uplifted crescent,
On many a royal gilded throne
And deed forgotten in the present;
He saw the age of sacred trees
And Druid groves and mystic larches;
And saw from forest domes like these
The builder bring his Gothic arches.

And must thou, foundling, still forego
Thy heritage and high ambition,
To lie full lowly and full low,
Adjusted to thy new condition?
Not hidden in the drifted snow,
But under ink-drops idly spattered,
And leaves ephemeral as those
That on thy woodland tomb were scattered?

Yet lie thou here, O friend! and speak
The moral of thy simple store:
Though life is all that thou dost seek,
And age alone thy crown of glory,
Not thine only germs that fail
The purpose of their high creation,
If their poor tenements avail
For worldly show and ostentation.

O

WHO SAID SACRIFICE?

"Our forefathers did without sugar until the 13th century; without coal fires until the 14th century; without potatoes until the 16th; without coffee, tea and soap until the 17th; without pudding until the 18th; without gas, matches and electricity until the 19th; without canned goods until the 20th; and we have had automobiles for only a few years. Now, what was it we were complaining about?"--Office of Price Administration.

O

BARK STRIPPED FROM BIGGEST CORK OAK

More than half a ton of bark was stripped from the biggest cork oak in the United States, on the grounds of the State Hospital at Napa, according to announcement by Woodbridge Metcalf, extension forester in the University of California College of Agriculture. The tree yielded 1050 pounds of cork, 200 more than taken from the Kiser tree south of Sonoma last summer.

The tree has a diameter of 58 inches, breast height, and is 75 feet high. Apparently about 65 years old, it is one of the first cork oaks planted in the State. The tree has been producing cork at the rate of about sixteen pounds a year since it began growing. Cork from the tree, together with that stripped from trees this month in Merced, Fresno and Kern counties, will be shipped to Baltimore laboratories for testing.

. . . . . .

"Mother, are we going to Heaven some day?"

"I hope so."

"I wish papa could go, too."

"Don't you think he will go?"

"Oh, no--he couldn't get away from the office!"

. . . . . .

PAGE RIPLEY! ASBESTOS BURNS!

We'd have bet our last dollar--that one we're hoarding for a rainy day--that there's one thing fire simply doesn't give a hang about. But apparently the War (we can blame it for everything) has affected even the fire resistant qualities of asbestos. A short time ago one of the Madera County Division of Forestry outfits was called to put out a truck fire on Highway 99. Considerable difficulty was experienced in extinguishing the fire, which, apparently started from a cigarette thrown from a passing vehicle, was burning vigorously upon arrival of the State truck. The Division of Forestry crew soon had the fire under control with very little damage to the truck. But the load, 50 sacks of asbestos, was almost a total loss! (Editor's Note: This happened to be one of the days when the pavement was so hot the asphalt started to run into the drainage ditch.)

. . .

"Oh, give me a home where the buffalo roam
And the deer and the antelope play. . . . "

This refrain from one of my favorite songs was made realistic on a recent trip to Fredonyer Mountain, Lassen County. Accompanied by C. R. Tillotson, U. S. Forest Service, Deputy State Forester James K. Mace and State Ranger George Ruth, I visited the State lookout on the summit, an elevation of 7996 feet. This lookout was made possible through cooperation of the Taylor Grazing Service and the State Division of Forestry.

Fredonyer Lookout Station is reached by a branch road from the Willow Valley-Ravendale Road, which passes through rolling sage brush area on which Juniper trees are sparcely located.

As we drove along this road a large bird was seen a short distance ahead of us. Ranger Ruth sounded his horn and a dozen more of the large birds flew up from the sage brush. That was my first view of the sage hen, a bird resembling the prairie chicken of the middle west, although without its quick take-off or rapid flight. This no doubt accounts for its scarcity and its protection under the California law, which does not allow it to be hunted. However, the sage hen is not protected in Nevada and the season was open not many miles from where we were.

On the route was a small artificial lake on which were a number of wild geese which Ruth said probably nested in the sage brush, although he had known them to nest in trees where available, to escape coyotes and other predators.

As we took the road leading up the mountain, a band of a dozen antelope not more than a hundred yards distant stopped and watched us. It would have been easy to shoot the buck that stood broadside, but the season was not open and we had no gun if it had been.

As we sat in the car watching the antelope, Tillotson saw a rattlesnake crawling from under the car. After dispatching it with large hunks of lava rock, we proceeded up the mountain, passing through Cottonwood Springs where many quaking aspen lined the water course, until we reached the top of the mountain, fringed with wind-swept Lodgepole pines.

All of Lassen County lay spread out before us. On one side was Eagle Lake, on the other Horse Lake, and in the far distance loomed majestic Mt. Shasta.

The lookout was glad to see us. He has few visitors except during the hunting season. He told of the big bucks that come close to his station, but the antelope never come that far up. He often sees them a thousand feet below. Chipmunks come for bread crumbs and he protects them from bobcats with "old Betsey". Ruth said the old fellow continually bothered him this spring, wanting to know when he could go on duty. He missed his friends on the mountain.

As we drove down the highway that afternoon on our way to Butte County, I hummed "Home on the Range". The day of the buffalo is past but the deer and the antelope still play in Lassen County under skies that are cloudless all day.--M. B. PRATT, State Forester.

ROBERT SNOWDEN, FORESTRY EMPLOYEE, RISKS LIFE TO SAVE SOLDIERS

At risk of his own life, Robert Snowden of the Hill Crest Division of Forestry crew, Shasta County, led to safety some dozen soldiers fighting fire with him on July 25.

Under direction of Assistant Ranger Wally Hunt, Snowden was backfiring a bad fire in the vicinity of Beegum when he and the soldiers were trapped by another backfire sweeping up behind the group. Snowden led all the soldiers to safety and then returned to the line to make certain none were left in line of fire. On this trip he was unable to get out and only through his quick wittedness and knowledge of fire conditions was he able to save himself. By lying down in a ditch and letting the fire go over him, Snowden escaped serious injury.

Commending Snowden's action, State Forester M. B. Pratt wrote the following letter:

"I am informed by Deputy State Forester Mace that through your devotion to duty and quick action you saved the lives of several soldiers at great risk to yourself.

"I consider that what you did was of as much service to your country as any action you could have performed on the field of battle. I regret that I do not have some form of medal that I could give you, but at least I can express my deep appreciation, and that of every member of the State Division of Forestry, of your bravery and loyalty to duty that you displayed in saving the lives of those in your charge, even at the risk of your own."

. . . .

HM-M-M-M. . . .

Deputy State Forester Cecil Metcalf vouches for the veracity of this one, but after hearing it, we aren't vouching for Cecil!

In the good old days of the muzzle loading rifle, Cecil's grandfather and a friend decided to go hunting. During their trek through the mountains they were forced to cross on a log over a deep stream. Half way over grandfather's powder horn slipped from his shoulder, falling into a deep pool. Not being too good a swimmer, grandfather accepted his friend's offer to recover the horn for him. The friend dove in to the pool and grandfather waited for several minutes. After what seemed at least five minutes and his friend had not reappeared, grandfather became frightened and was certain his friend had met with an accident. Laying down his gun he slipped in to the pool. Arriving at the bottom he looked around, and what do you suppose he saw? His friend, of all people, his leg hooked around a root, pouring the powder from grandfather's horn in to his own.

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WAR COUNCIL SHARES FRESNO FORESTRY OFFICE

Space for the War Council offices in Fresno has been furnished by the State Division of Forestry in the District IV Forestry Building in that city. In accepting the assistance of the Forestry Division in facilitating the housing of the business administration of the California War Council in the Fresno Region, Civilian Protection Officer Burton Washburn stated: "Since one of the greatest hazards of the home front is fire, whether it come from enemy action or other causes, I am greatly pleased to become so closely associated with the Forestry organization. We of the California State War Council know the part the Forestry service will be called upon to play in the protection phase of our home front effort in the event of enemy attack and it is gratifying to be working in close harmony with the Forestry Division.

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FORESTRY. . . OR FISH AND GAME?

Madera and Fresno County forestry crews had action combined with sport fishing while extinguishing a fire August 1. Running out of water, one of the Madera County trucks started drawing water from the nearby San Joaquin River. Fortunately the truck driver placed his screen over the suction hose but even after this precaution catfish were drawn to the end of the suction hose in such numbers that considerable time was lost in filling the tank. One man had to be assigned to the suction end with a board to push the fish back before the tank could be filled.

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PERSONALS:

State Forest Ranger Charles Campbell has been "revelling" in that state known as single blessedness while Mrs. Campbell and the young fry have been enjoying the cool breezes of the Sierra. At last reports Charlie was a little weary of his "revelry" for he wrote Mrs. C. in part, "Come home, Mom; laundry completely exhausted and bottle deposit on milk bill looks like the War Debt!"

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DIVISION OF FORESTRY MILITARY HONOR ROLL

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EDWARD GUTOWSKI, Assistant Ranger	Kern County
EARL FITZE, Dispatcher	Butte County
FRANK MOORE, Property Inspector	Sacramento County
JOHN LOCKHART, Assistant Ranger	Yolo County
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California Department of Natural Resources
DIVISION OF FORESTRY

William H. Moore
Director

Sacramento

M. B. Pratt
State Forester

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Estelle J. Baxter, Editor

VOL. 2, NO. 12 N E W S L E T T E R OCTOBER, 1943

WAR FOREST FIRE PROTECTION

An agreement covering war forest fire protection on non-Federal critical areas of national importance was entered into between the Division of Forestry and the Regional Forester, United States Forest Service during August. Effective as of July 1, 1943, the agreement will be effective to and including June 30, 1944.

Terms under which Federal funds can be spent through the State Division of Forestry in protection of national defense activities which might be disrupted by forest fires, are set forth in the agreement.

Congress has made an appropriation for this for the fiscal year ending June 30, 1944, recognizing the direct responsibility of the United States in preventing and suppressing forest fires in critical areas of national importance.

California, by reason of its established State protective organization, has been allotted $99,000 of the $2,300,000 appropriation. This does not have to be matched by the State and private owners.

To secure these funds the State agrees to carry out protective measures through submission to the Forest Service of a protective plan and map showing location, character, extent and estimated cost of protective measures to be put into effect.

The State has agreed to supervise and be responsible for prevention and suppression of forest fires on critical areas of national importance in accordance with this plan. These activities will be in addition to those normally undertaken and carried out by the State Forester and cooperating associations and individuals.

Under the plan the Division of Forestry will allot the bulk of the $99,000 to four cooperating counties, Los Angeles, Ventura, Santa Barbara and San Mateo, for establishment of swing crews and employment of patrolmen. Present plans do not contemplate expenditure of more than a small amount of this allotment for organization of the Division since the large increase in Clarke-McNary funds this year will probably provide for all additional protection needed.

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FABULOUS WEALTH FOUND IN TROPICAL JUNGLES

By Art Burgess

GUADALCANAL (AP) --A potential multi-million dollar lumbering industry is visioned by the resourceful U. S. Navy Seabees who now cut thousands of board feet of the finest mahogany, rosewood and teakwood from the jungles for mess halls, bridges, camp chairs and floors for our armed forces on Guadalcanal.

Tales of the forests here would make the mythical Paul Bunyon blush. There are huge stacks of newly-cut mahogany logs, many of them 60 to 70 feet in length and a yard or more in diameter without a knot.

Visiting a sawmill and logging camp in the jungles on the famed Lunga River near Bloody Knoll, I sat down to chow in a mess hall, 20 to 30 feet, constructed of fine-grained light mahogany, worth, in the States, about $10,000 as calculated by Chief Machinist Mate Byron Smith, of 130 Fairmont Boulevard, Knoxville, Tenn. Smith is in charge of the sawmill.

I sat at a rosewood table, in a mahogany chair. The floor was of solid teakwood.

Scattered about the various camps are chairs and ordinary shelves of beautiful rose-wood, teakwood and mahogany. None was varnished or painted.

Later I crossed a 300-foot solid mahogany bridge. The lumber in this was close-grained and without a knot. I visited a wharf, 500 by 60 feet, also of solid mahogany.

Back in the forests are miles and miles of standing timber, mostly mahogany. One log just felled was 142 feet in length, 18 inches in diameter at the bottom and 17 at the top, with only two knots at the top where the limbs had been cut off.

I counted more than 30 logs of from 80 to 100 feet in length, four feet in diameter at the bottom and about three at the top.

The biggest problem facing the naval construction battalion--known as the Seabees of "CB's"--is digging out shell fragments imbedded in many of the felled logs. The Seabees can clear a sawmill site in the jungles but if they ruin or wear out their saws they wait a long time for replacements.

In one log they found 14 1/3 pounds of iron and lead bullets.

"It is just like cutting our best southern pine," Chief Smith declared. "There seems to be an unlimited amount here. We are still working on one patch three by five miles where the trees are, on the average, three feet in diameter at the bottom and 30 inches at the top and 60 feet long before coming to a limb.

"Canyons are filled with mahogany and the mountains have never been touched."

--South Carolina
RANDOM FORESTRY NOTES

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FIRE CONTROL

A comparative record of forest and structural fires fought by the Division of Forestry in 1941, 1942 and 1943, as of August 31 is:

Number of Firest

	1941	1942	1943
Forest	3,819	3,766	4,450
Structural	1,356	1,602	1,577
Totals	5,175	5,368	6,027

Acres Burned

Timber	705	1,341	4,244
Brush	26,129	255,688	150,482
Grass	105,486	219,869	158,994
Hay and Grain	4,050	4,521	6,728
Totals	136,370	481,419	320,448

Damage in Dollars

Timber	2,878	7,222	9,537
Range	44,101	85,372	100,516
Hay	53,209	76,994	182,587
Improvements *	70,027	260,445	468,940
Structural **	2,829,494	2,422,653	2,498,452
Totals	2,999,709	2,852,686	3,260,032

* Damage as result of forest fires
**Damage by purely structural fires

All figures are cumulative from January 1.
Lassen and Tehama counties missing

. . .

MISSING IN ACTION

Two former Forestry members have been reported missing in action, Lloyd L. Hume, Dispatcher in Mariposa County, and Sydney C. Ormsbee, Assistant Ranger at the Felton Forestry Station.

It was not learned from what theatre of action Hume was missing. Ormsbee, first lieutenant in the Air Corps, had been in many bombing raids in the middle east area of war, receiving a decoration for bravery in action.

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TAN BARK OAK MIGRATING?

While on the Potter Ridge fire, Madera County, recently, Division of Forestry members found two specimens of Tan Bark Oak, Quercus densiflora (Sudworth), in a deep canyon. The trees were approximately 12 inches in diameter and of a very thrifty nature.

This is the first time the Tan Bark Oak has been reported in Madera County. How these isolated specimens came to be in this location is not known. Heretofore the species has been reported in Yuba, Sierra and Placer counties in the Sierra region, but never in Madera County.

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An Army captain, drilling ten colored soldiers on the rifle range gave the order, "Fire at will!"

Nine of the rookies complied and after a few seconds' wait the captain questioned the tenth one, who replied, "Well, suh, you said 'Fire at Will', and I nevah did see him go by!"

. . . .

A PIG, A BARREL, AND THE CITY DUMP

Lee Lange won a bet, but according to his pals at the Division of Forestry station, he really earned it. It wasn't hard to get the pig, which was the matter on which the bet was made, but returning it was another story.

The whole thing started when somebody bet Lange he couldn't catch one of the pigs at the Yreka city dump and bring it away with him. Lange thought he could and backed his judgment with a $2 bet.

One morning when Lange was unloading garbage from a pickup at the dump, one of the pigs stuck his head into one of the Forestry Division's best garbage barrels which Lange had placed on the ground.

Lange took a quick look around, saw no human beings in the vicinity, and quickly boosted Mr. Pig into the barrel. After that it was no trick at all to raise the barrel upright, load it onto the pickup and drive back to Forestry headquarters to collect the bet.

The next problem, of course, was returning the pig and that, according to Lange's pals, is when he really began to worry.

After considering how to get the pig back without being discovered, Lange got some waste paper, placed it over the pig for camouflage and drove away, wondering, as he drove, what he would do if the city dump turned out to be a populous place when he arrived.

Now the boys at the Division of Forestry are kicking themselves because none of them thought to phone the sheriff's office about the time Lange started the long trip back.--Yreka News.

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ONO AND IGO

Fires have recently been reported at Ono and Igo, Shasta County. These small towns, located west of Redding, bear names bestowed upon them through rather unusual circumstances.

It is related that in the early mining days the activities of orientals became very obnoxious to other miners in a mining camp in western Shasta County. A delegation called upon the orientals and told them to get out. The orientals replied, "Oh, no". They were told that if they didn't get out, they would be strung up to the nearest trees. Thereupon the orientals said, "I go!"

. . . .

SALUTE TO THE TREES

Many a tree is found in the wood
And every tree for its use is good--
Some for the strength of the gnarled root,
Some for the sweetness of flower or fruit,
Some for shelter against the storm,
And some to keep the hearthstone warm;
Some for the roof and some for the beam,
And some for a boat to breast the stream.
In the wealth of the wood since the world began
The trees have offered their gifts to man.

But the glory of trees is more than their gifts--
'Tis a beautiful wonder of life that lifts,
From a wrinkled seed in an earth-bound clod,
A column, an arch in the temple of God;
A pillar of power, a dome of delight,
A shrine of song, and a joy of sight.
Their roots are the nurses of rivers in birth:
Their leaves are alive with the breath of the earth;
They shelter the dwellings of man; they bend
O'er his grave with the look of a loving friend.

I have camped in the whispering forest of pines,
I have slept in the shadow of olives and vines;
In the knees of an oak, at the foot of a palm,
I have found good rest and slumber's balm.
And now, when the morning gilds the boughs
Of the vaulted elm at the door of my house,
I open the window and make salute:
"God bless thy branches and feed thy root.
Thou hast lived before, live after me,
Thou ancient, friendly, faithful tree."

--Henry Van Dyke

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HISTORY OF DIVISION OF FORESTRY AVAILABLE

A history of the Division of Forestry from its inception to the present day is now ready for distribution. Entitled "THEN. . .AND NOW. . ." and written by Estelle J. Baxter, Editor of the News Letter, the booklet is distributed free of charge. Copies may be obtained by writing to the Editor, Forestry News Letter, Division of Forestry, State Office Building, Sacramento, California.

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NATIONAL FOREST RECEIPTS MAKE NEW RECORD

National forest receipts reached an all-time high of $10,056,448 in the fiscal year ended June 30, 1943, the U. S. Department of Agriculture has reported. This amount is nearly three million dollars greater than last year's figure of $7,112,896 which broke all previous records.

"The gain reflects the national forests' increasing contribution to the war," said Lyle F. Watts, chief of the Department's Forest Service, which administers the 160 national forests located in 40 states and two territories. Receipts from timber sales accounted for a major portion of the total, amounting to $7,537,607, as compared with $4,952,442 last year. Timber sales have been stepped up materially, and practically all timber cut is going into war uses, he said. All cutting on national forests, however, is under supervision, and logging methods required make ample provisions for future growth of timber.

Next in importance were returns from grazing fees amounting to $1,973,233 as against $1,595,126 for the previous year. More than 10 million head of livestock, producing meat, wool and leather for army and civilian use, graze national forest ranges, mostly in the Western States.

Returns from special land use permit fees, such as rentals for summer home sites, resorts and other private or commercial developments permitted on national forest lands, totaled $392,709, an increase of $5,899; returns from water power rentals came to $80,362. The sale of miscellaneous forest products amounted to $51,149.

Of the ten national forest regions, including Alaska, receipts from the Pacific Northwest, Washington and Oregon, amounting to $3,445,733, topped all others. The southern national forest region, with receipts of $1,819,071 rated second place.

A number of the national forests are now yielding returns well in excess of operating costs, including some units which were largely cut-over and burned-over lands acquired in recent years, and on which rehabilitation and development work has been going on only a short time.

Since Federal property is not taxed, 25 percent of all money received from each national forest is turned over in lieu of taxes to the state or territory in which the forest is situated, to be expended for the benefit of the public schools and public roads of the county or counties in which the national forest lies. An additional 10 percent is used for road and trail building or upkeep on the national forests, so that 35 percent in all of the receipts returns directly to benefit the local national forest communities.

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RIALTO THANKS DIVISION

On August 18, the packing house at Rialto was on fire but due to the prompt action of the Division of Forestry firefighting crew the damage was confined to the one building with but minor damage to adjoining structures. In appreciation of the efforts of the Forestry crew, the Rialto City Mayor, R. M. Milligan, wrote:

> "At a meeting of Rialto City Council held last evening, the councilmen expressed sincere thanks and appreciation for the able assistance you gave us at our packing house fire on August 18.
>
> "We feel that your prompt response with your equipment and the efficient work of your crew was a major factor in confining the fire to the one building and thus saving further damage to the nearby buildings."

. . . . .

"I had a surprise this morning," said the optimist. "I put on a last summer's suit and in one of the pockets I found a big roll of bills which I had entirely forgotten."

"I'll bet none of them were receipted," said the pessimist.--PENNSYLVANIA ANGLER.

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When enroute back to Sacramento from a field trip, State Forester M. B. Pratt saw the following sign, which, even in this modern age seems a little far-fetched as a description of a cow:

JERSEY HEFFER
2½ years old
First calf this month,
Oil Circulating Heater,
Bed Divan,
Saddle Horse,
Wire Fencing.

. . . . .

DIVISION OF FORESTRY MILITARY HONOR ROLL

EDWARD GUTOWSKI, Assistant Ranger	Kern County
EARL FITZE, Dispatcher	Butte County
FRANK MOORE, Property Inspector	Sacramento County
JOHN LOCKHART, Assistant Ranger	Yolo County
LOUIS BAKER, Technical Office	Sacramento County
THOMAS HENSON, Dispatcher	Calaveras County
SIDNEY ORMSBEE, Assistant Ranger	Santa Cruz County
ROSCOE SAVAGE, Assistant Ranger	Tuolumne County
DAROLD DOWNING, Dispatcher	Humboldt County
WM. JAMIESON, Assistant Ranger	Mendocino County
GODFREY D. GERMAN, Assistant Ranger	Sacramento County
DONALD KNOWLTON, Dispatcher	Mendocino County
N. O. STEPHENS, Assistant Ranger	Fresno County
RUSSELL Z. SMITH, Ranger	San Bernardino County
WALTER BANCHERO, Assistant Ranger	Yolo County
ROBERT FERNALD, Dispatcher	Siskiyou County
HERMAN HAMMACK, Assistant Ranger	Yolo County
JAMES HEINER, Assistant Ranger	Kern County
HARRY TRACY, Assistant Ranger	San Diego County
ARTHUR CRAIG, Assistant Ranger	Kern County
W. W. SKINNER, Ranger	San Bernardino County
MARK SHARER, Assistant Ranger	Eldorado County
ST. CLAIR BOTKIN, Assistant Ranger	Shasta County
LEWIS MORAN, Associate Ranger	Sacramento County
SIDNEY LAMERTON, Associate Ranger	Kern County
BRADFORD WILLIAMS, Assistant Ranger	Tehama County
ROSCOE CURTICE, Assistant Ranger	Tuolumne County
ERNEST RAMIREZ, Assistant Ranger	Yolo County
HAROLD BARR, Assistant Ranger	Yolo County
FRANK JENKINS, Assistant Ranger	Calaveras County
HARRY WARD, Assistant Ranger	Eldorado County
RICHARD HARKNESS, Assistant Ranger	Santa Clara County
JOHN HOEPPEN, Assistant Ranger	Santa Clara County
HARRY McGLAUGLIN, Dispatcher	Eldorado County
LAWRENCE E. RUTH, Ranger	Sacramento County
GERVICE NASH, Assistant Ranger	Santa Clara County
HERBERT S. GILMAN, JR., Asst. Ranger	San Diego County
DONALD LANDON, Associate Ranger	Butte County
PAUL L. HAGEN, Dispatcher	Kern County
WILLIAM H. STEPHENS, Foreman	San Benito County - CASUALTY
PHILIP WALKER, Dispatcher	San Benito County
JAMES REED, Assistant Ranger	Santa Clara County
HOWARD STANFORD, Assistant Ranger	Tulare County
J. HAROLD HUNT, Assistant Ranger	Calaveras County
ALLEN PORTIGAL, Assistant Ranger	Orange County
HAROLD F. WILLIAMS, Dispatcher	Tehama County
ARTHUR PIRAZZINI, Assistant Ranger	San Diego County
HERBERT B. KAUFNER, Associate Ranger	Shasta County
WM. T. (JAKE) JACOBSON, Asst. Technician	Sacramento County
EMERY SLOAT, JR., Associate Ranger	Sacramento County
CHARLES W. FAIRBANK, Forest Technician	Sacramento County

California Department of Natural Resources
DIVISION OF FORESTRY

William H. Moore
Director

Sacramento

M. B. Pratt
State Forester

Estelle J. Baxter, Editor

VOL. 3, NO. 1 NEWS LETTER NOVEMBER, 1943

FIRE SEASON PEAK PAST

Peak of fire season was reached in September with large fires in Shasta, Mendocino, Calaveras, Butte, San Benito, Humboldt and Yuba counties. Shortage of suppression crewmen occasioned by the opening of the schools necessitated conscription of labor for use in fighting fires.

In Shasta County six small saw mills were shut down and men taken from the Shasta Dam operations to fight a fire. Several hundred hunters were impressed into service, particularly by the United States Forest Service, which had several large fires in the national forests shortly after opening of deer season in the Sierra region.

The area protected by the State Division of Forestry experienced a number of incendiary fires. One man was convicted of setting ten fires in Calaveras County and is now serving a jail sentence. A fire that burned 3600 acres on the outskirts of Redding was set by a small boy shooting large-headed matches from an air rifle against rocks located in high grass. Several other fires were reported due to small boys throwing matches out of automobiles. It is possible the war games now being played by most small boys may have something to do with the number of fires reported to have been set by them.

A permit fire in Mendocino County escaped from control and burned land of a large lumber company where logging operations were in process. It was necessary for the company to shut down operations for two days to fight this fire. A fire in Humboldt County, set by a spark from a locomotive, burned more than a thousand acres and destroyed thousands of feet of downed logs. It also burned about three-fourths of a mile of plank road recently constructed by the company.

It will be noted in the accompanying fire report that the number of fires to date is much larger than in the past two years. This is surprising in view of the curtailment of travel and forces the conviction that local residents rather than the travelling public are responsible for the increase in the number of fires.

This year the Division of Forestry issued a poster made by Walt Disney showing a fire bug in the form of a Jap tossing a lighted match into a forest area. It bears the caption "Don't Be a Fire Bug - A Careless Fire is Sabotage".

For years forestry agencies have been using every argument possible to warn the public about carelessness with fire. Most people are careful but it takes only one careless person out of a thousand to start a fire.

Each of the Division's six districts now has a law enforcement officer who has been instructed to exert every effort to apprehend and bring to justice the careless and willful setter of fires. It is very evident that posters, literature and talks urging care with fire have no effect on those who have no regard for the consequences of the fires they set. It follows that law enforcement must be used to a far greater extent than in the past.

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FIRE CONTROL

A comparative record of forest and structural fires for 1941, 1942 and 1943 as of September 30, 1943, follows:

	1941	1942	1943
Number of Fires			
Forest	4735	4386	5276
Structural	1596	1809	1826
Totals	6331	6195	7102
Acres Burned			
Timber	1215	5074	8007
Brush	69227	299813	195152
Grass	143147	248295	176796
Hay and Grain	4050	4525	6841
Totals	217639	557707	386796
Damage in Dollars			
Timber	3885	12826	18624
Range	64505	95710	109290
Hay	53209	77154	185003
*Improvements	128776	317013	628454
**Structural	3244361	3405751	2817245
Totals	3494736	3908454	3758616

*Damage as result of forest fires
**Damage by purely structural fires

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Professor--A fool can ask more questions than a wise man can answer.

Sophomore--No wonder I flunked.--NATIONAL MOTORIST.

WEATHER WISE

Some time ago we attempted to shed a little light on the subject of radiant energy with emphasis placed on the topic of heat. Beginning with this issue and for the following one or two articles we shall treat the subject of energy in a more general fashion.

Energy can be of several kinds: heat, light, electrical, chemical and mechanical.

The several energy forms listed transform one into another readily under the right conditions. For instance one of the mechanical forms, so-called potential energy, can be converted from the power of falling mountain water to electric power to heat and light and to mechanical energy (in a motor).

Chemical energy can be converted into heat and light, which is what takes place when a fuel burns. What price the wild fire menace! Chemical energy can also be converted into mechanical energy, as when a gas engine operates, and so it goes. Our bodies' chemical energy is converted into mechanical energy (lifting and moving) and heat energy (warmth).

Energy is continuously putting on new and varied expressions to suit the combination of circumstances encountered.

On the opposite side of the writer's office at this moment, a wind recorder is being tested. The energy system consists of stored chemical energy contained in some dry cells; this transforms to electrical energy which flows through some wires. The latter energy is converted to mechanical energy in activating a small electromagnet. The relay, or magnet, operates a tripping device with a connected jumping pen arm extension. All the way along the line, heat energy slips away--in the resistance of the wire, at the magnet (resistance and impact) and finally in the mechanical gadgets (impact and friction). So, every bit of the energy flies away as heat, a rather common story, as we shall see.

In discussing heat, it was previously mentioned that all energy starts its restless wandering as heat radiations. Also, all energy must eventually return to heat or light radiations, ere it leaves this globe of ours and rejoins the universe at large. Sort of a dust-to-dust proposition.

This is true because radiant energy is the only form by which the "prime mover" (energy generally) can travel out of touch with material things. In other words, energy can leave the world in the same manner it came, but not as electrical, chemical or mechanical energy.

From one rather meaningful point of view, the universe is simply space, sparsely littered with energy concentration points, the stars, our sun, being some of these. Necessarily, space is not a void but is filled with a three-dimensional energy field of dimming intensity, radiating away from these centers.

Our relatively small world, on its sunny face, gets in the way and interrupts some of these space-traveling radiations as they streak away from the sun. The dark side of the earth loses an excess of radiations to space which, of course, results in surface chilling of that side. This occasionally gives rise to a

condensation of dew or to frost deposits.

The atmosphere and oceans circulate and re-distribute energy from hotter places on the earth to colder regions. The moon, which has no atmosphere or oceans, is too hot on the sunny side and too cold on the shaded side for us to even want to think about. The fluid veil about this sphere of ours is an efficient energy screen, as well as a sponge, figuratively speaking.

As every reader doubtless realizes, cold is simply the absence of heat. Accordingly, when heat escapes, things become cold. To slow down energy (heat) escape we resort to insulation in the way of clothes, walls, etc., and that is where clouds come in especially handy during the colder months. They are good insulators.

Now, diving into the subject headfirst, let us say that energy has several well-defined properties that manage to keep things rather lively here on earth. Let us enumerate these.

First, it is characterized by a complete lack of physical substance. Energy is nothing one can put his hand on, yet it is in every hand that moves.

Second, energy is absolutely indestructible; in fact, it can neither be created nor destroyed.

Third, energy has a penetrating irresistability when contacting substances.

Fourth, energy garbs itself in several quite different forms which have already been accounted for (chemical, mechanical, radiant, etc.).

Fifth, energy has the habit of undergoing a tricky series of transformations between these forms. This behavior may fool us and cause energy to seem to disappear on many occasions. For instance, sunshine (light) disappears in the growing plant, only to turn up immediately as chemical energy. A release of this chemical energy to heat energy again is the stuff a forest fire is made of.

Sixth, energy lends movement when it is on the "wing". Fundamentally, it alone is responsible for the rearrangements of pattern, re-locations and activities in all material things. In this trait, energy lays claim to the title of "prime worker", since natural forces (gravity, friction, chemical forces, etc.) are opposed and moved against in all of these manipulations.

Seventh, energy possesses an everlasting urge, though this may not be promptly satisfied, to dissipate and depart from where it has just been. Efforts to channelize energy are always somewhat inefficient, due to energy's persistent tendency to diffuse (heat escapes) in a sort of thinning-out process.

Eighth, energy sometimes just sits down in substances and comes to rest. This is the case when chemical energy is stored up, when a spring is under tension or when a weight is held aloft.

Because energy is indestructible, we must conclude that from the time it makes its sunny entrance until its final exit, it does not diminish one bit in quantity. However, due to the fact that energy tends to dissipate, it certainly does diminish in effective quality.

This is because energy which is not concerted (concentrated) loses its force-moving powers. To be effective, energy must, in a way of speaking, be in piles or "cornered surpluses" which stand above the common energy level of the surroundings. Thus, if all temperatures were at a common level, nothing would move because no heat would flow. The energy fountain would be submerged, as it were. Good dry cell batteries, TNT, impounded mountain waters, etc., represent energy surpluses which stand ready to release energy.

Local concentrations of energy tend to waste away, as has been indicated above. The spreading out or diffusion of energy suggests water running downhill. Like with energy, the water does not diminish in amount but the amount of work it can do as a falling mass surely does diminish. This fly-by-night draining tendency causes heat energy of the warming variety to possess a fluid character. It voluntarily passes from bodies of higher temperatures to colder ones, but never vice versa. Thus, the heat energy of warm air passes to adjacent cold air, but the energy of cold air stays put, unless a substance still poorer in energy (colder) is at hand to lay claim to that energy.

One might say that energy yields to lines of least resistance. So it is true that energy is precise in the direction by which it steers a course and so the destiny of the single and combined world movements. This fact is simply one aspect of the order of the universe.

The direction which energy takes is in part determined by the nature of the substance acted upon. For instance, it requires much more heat energy to raise the temperature of water by a set amount than is required to raise the temperature of an equal mass of iron or other mineral by the same amount. So it follows that water is a better reservoir for energy than many other things.

Water is such a good reservoir for accumulating heat energy deposits that it requires a long time for the oceans to cool in contrast to the period it takes for the continents to lose their heat. This fact gives rise to land (night) and sea (day) breezes along seacoasts, a matter to be discussed in a later issue.

It was noted under energy characteristics that this "something-or-other" (energy) is entirely indestructible and that more often than not it is "on the wing", coming or going. This is a good place to consider what is meant by spending energy.

Energy is never used up so as to pass out of existence. It merely leaves one position and goes to another with a downhill tendency all the way. We might think of the energy that passes through some particular process as being lost much as capital (money) might be lost. Again, it might be compared to the relinquishment of water that has been temporarily "borrowed" from the earth for some purpose. Energy simply re-invests, or re-attaches itself to new locations.

Energy passes along from quarter to quarter and is "spent" only in the sense that it subsequently is never again as usable for effecting changes as it was previous to departing from its former scene of action. So we say that energy becomes continuously less available for moving and doing things. Perhaps it would be well to give this matter a bit more explanation before leaving the subject.

Peculiar as it might seem, energy appears to weaken and lose its concentration simply because of the nature of heat. Heat lies at the crossroads in all movement and transformations. Also, there always arises some liberation or escape of heat when things happen, and this heat being fluid-like simply scatters out like dust in the wind.

It is to be remembered here that heat when passing from the sun has a directional quality about it. Heat was initially emitted from the sun as radiations following straight, nearly parallel, lines. When heat is absorbed and re-radiated, it progressively scatters and loses its concerted directional quality.

This is the meaning of heat dissipation and the manner by which heat loses its effectiveness. The warming, temperature raising type of heat "flows downhill" so to speak, and the radiant (initial and ultimate) variety woefully scatters upon release, like salt thrown into the ocean.

Now, all energy flows are accompanied by heat releases. For instance, as was stated above, in the case of electricity flowing through a wire, some of the energy is converted into heat by reason of the resistance of the wire. When friction is overcome or there is mechanical impact the energy is directly transformed into heat (energy). Spontaneous chemical reactions are associated with large heat releases, such as burning, for example.

Because of this heat escape and scatter business, any particular batch of energy becomes forever a less and less usable quantity. Just try to gather the heat of a forest fire that has taken to flight and you will see what I mean. That heat might be valuable in the right places, but when it has departed and scattered it has no natural tendency to concentrate again.

Rather obviously, the sun starts scattering energy radially and everything the energy thereafter contacts simply continues the process of scattering to a more thorough degree.

Next issue, more will be said about this "spirit substance", energy. The subject of energy is rather near bedrock in weather and other physical discussions, since energy gives rise to all change, all movement, all transformations, all animation.

In closing, may we reflect that in some degree change goes on everywhere at all times. This is not because you or I say so or because we may want this to be the case, but simply because energy, following lines of least resistance, is ever present and ever-flowing, maintaining a perpetual driving force throughout the "fibres" of the universe.--HERMAN P. MEYER, Assistant Forest Technician.

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NAZI DESTRUCTION OF NORWEGIAN FORESTS

When Norway was occupied in 1941, one of the first measures undertaken by the Germans was to order compulsory cutting of timber in quantities which largely ignore the timber resources of Norway, according to "News of Norway", published by the Royal Norwegian Information Service. In Telemark Province, for example, where the annual growth was 1,010,000 cubic meters, the Germans order 1,015,000 cubic meters to be cut during 1941-42. In the pre-war year of 1938-39 the amount of timber cut in Telemark was only 47 per cent of the estimated increase.

Slow-ups were described as preventing the Germans from cutting 12 million cubic meters of Norwegian timber in 1941-42 where the estimated growth was 10.5 million cubic meters.

During the five year period before the war an average of 15.4 million new trees were planted annually. New planting has continued since the occupation in spite of labor shortages, but the demand for lumber has grown so enormously as to cause serious results. Large "barrack towns" for hundreds of thousands of German soldiers, air fields, defense construction and railway and highway projects have swelled the demand, and much lumber is being exported to Germany. Finally, with coke and coal imports halted, fuel wood has been used for industrial needs, as well as for domestic purposes.--Conservation News Digest.

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A grinning office boy in an office, submitting to two cuts in salary, recently took a third.

"It's all right," he agreed, "just so he don't begin charging me admission."

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COLLINS ALMANOR FORESTS

AMERICAN FORESTS for October contains an article entitled "Collins Almanor Forests" by Chapin D. Foster, which describes a splendid private forestry operation in California. The area involved is owned by the Collins Pine Company of Portland, Oregon, and lies adjacent to Lake Almanor, Plumas County. It covers 70,000 acres and contains a billion board feet of timber, one-third of which is Ponderosa pine, one-third Sugar pine, one-fifth Douglas fir and the balance White fir and Incense cedar.

After several years' study by foresters in the employ of the company, it was decided that a sustained yield operation could be carried on to advantage, especially since a 30,000-acre tract of government timber intermingled or was adjacent with their private holdings, from which stumpage could probably be purchased. Also, it was determined that the annual growth rate of 250 board feet per acre was favorable for the continued production of timber.

All trees are marked for cutting by the company's foresters with an eye to the future crop of timber. Trees as high as 50 inches in diameter are left for a second cut, if they are healthy and located where they are valuable for seed trees. Mature and defective trees are removed to leave space for the better development of young growth. It is estimated that the average cut is about 5000 board feet per acre.

From the studies made it is expected that the timber left after each cutting will increase in growth sufficiently to enable a return for another cut from the same area in fifteen years. On the basis of the area involved this will mean a perpetual annual cut of 25 million board feet.

Since start of operations two years ago, losses from fire in the woods have been very small due to the prompt action taken by logging crews on any fires that may start. The company has two tank trucks, 7500 feet of 1½" fire hose, portable pumps, a fire truck and trailer, and a small bulldozer which stands in readiness for any emergency.

There is no waste at the sawmill, located near Chester, California. Sawdust and shavings are burned to develop power to supply the plant and logging town. This town is built with the idea of permanence and is located in a grove of Ponderosa pine timber. The houses are designed for family units and are as up-to-date as those to be found in any community.

Recreational facilities such as a swimming pool, ball diamond, and tennis courts are provided. Everything possible is done to make a permanent home for workers and their families.

California welcomes an operation of this kind which is far different from many of the early logging operations in this State that cut timber with no view to the future of the forest. If more operators followed the lead of the Collins Pine Company there would be little or no need for regulations by law, either Federal or State.

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"Sorry, sir, but I'm all out of wild ducks. I could let you have a fine end of ham."

"Don't kid me. How could I go home and say I shot an end of ham?"--National Motorist.

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YOU GIVE PERMIT? YES?

The Division of Forestry early this month received the following letter from a resident of California who was most anxious to get rid of an accumulation of brush, although his English was a little oblique:

"Dear Sir

We have about 50 acre of brush we cut 3 years ago we never have way that we can burn them. We would like if you can give permit too burn this brush it cost us 600.00. We live close of . . . Bros and Mrs. . . . . or . . . Market. We wont burn on sout wind we like north kinly let us know. It rain out here yesterday, they are little damp. It no change yet.

Your very truly,"

. . . . . .

This cockeyed world: A man who hadn't kissed his wife in five years shot a fellow who did.

. . . . . .

RADIO EFFECTS SAVING

Notable reduction in long distance telephone tolls has been effected through installation of radio transmitting and receiving equipment at the Iaqua Lookout and the Fortuna Division of Forestry headquarters. During September, 1942, long distance calls totalled $46. Same period this year the charge was only 10 cents.

In addition to the financial aspect, this service has made available instantaneous communication between these points as there is no delay in securing a long distance line.

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Host (to guest): "Do you know the difference between home-made and imported rye?"

Guest: "No."

Host: "This is imported rye."

. . . . . .

AMERICAN CB INDITES NOTE ON JAPANESE POSTCARD

A note, written on a Japanese postcard which was picked up on Kiska after the American troops occupied the island, has been received from Hal Goodyear, a member of the construction battalion. The card is of light manila paper with a number of Japanese characters across the front. The printed stamp is a white dove on a steel helmet.

"Finally lit on Kiska awhile back", writes Goodyear. "The Japs were lucky that they left and let me tell you, so were we. Rats are just what they are. I never saw such filthy holes as they lived in; very flimsy shacks with coal stoves. Most of the timber seems to be a small pine but I have seen some Douglas fir and a strange hardwood. Their style of construction is peculiar--paneled walls with trussed roofs. No ceiling inside except blankets, mats and some celotex-like stuff. Nothing much on the island except tundra, rocks and bogs. Volcano at one end."

Goodyear is a graduate of the school of forestry at Oregon State College. Prior to getting into the army he was with the California State Division of Forestry and also Region 5 of the forest service.---THE FOREST LOG, Oregon.

(Editor's Note: The California Division of Forestry has no record of Goodyear in its employ.)

. . . . . .

Up on Cloud Seven was Una Leddy of the Division of Forestry Sacramento headquarters office this last month. And all because hubby returned from the wars (Alaskan area) for a brief visit. Tentatively promising that he'd be home for Christmas, Una found Christmas arrived two or three months early this year--not that it mattered to her because she was seeing everything with a rosy glow.

. . . . . .

Wife (in back seat)--"Don't drive so fast, George."

George---"Why not?"

Wife--"That policeman on a motorcycle behind us can't get by."

. . . . . .

DIVISION OF FORESTRY MILITARY HONOR ROLL

EDWARD GUTOWSKI, Assistant Ranger	Kern County
EARL FITZE, Dispatcher	Butte County
FRANK MOORE, Property Inspector	Sacramento County
JOHN LOCKHART, Assistant Ranger	Yolo County
LOUIS BAKER, Technical Office	Sacramento County
THOMAS HENSON, Dispatcher	Calaveras County
SIDNEY ORMSBEE, Assistant Ranger	Santa Cruz County
ROSCOE SAVAGE, Assistant Ranger	Tuolumne County
DAROLD DOWNING, Dispatcher	Humboldt County
WM. JAMIESON, Assistant Ranger	Mendocino County
GODFREY D. GERMAN, Assistant Ranger	Sacramento County
DONALD KNOWLTON, Dispatcher	Mendocino County
N. O. STEPHENS, Assistant Ranger	Fresno County
RUSSELL Z. SMITH, Ranger	San Bernardino County
WALTER BANCHERO, Assistant Ranger	Yolo County
ROBERT FERNALD, Dispatcher	Siskiyou County
HERMAN HAMMACK, Assistant Ranger	Yolo County
JAMES HEINER, Assistant Ranger	Kern County
HARRY TRACY, Assistant Ranger	San Diego County
ARTHUR CRAIG, Assistant Ranger	Kern County
W. W. SKINNER, Ranger	San Bernardino County
MARK SHARER, Assistant Ranger	Eldorado County
ST. CLAIR BOTKIN, Assistant Ranger	Shasta County
LEWIS MORAN, Associate Ranger	Sacramento County
SIDNEY LAMERTON, Associate Ranger	Kern County
BRADFORD WILLIAMS, Assistant Ranger	Tehama County
ROSCOE CURTICE, Assistant Ranger	Tuolumne County
ERNEST RAMIREZ, Assistant Ranger	Yolo County
HAROLD BARR, Assistant Ranger	Yolo County
FRANK JENKINS, Assistant Ranger	Calaveras County
HARRY WARD, Assistant Ranger	Eldorado County
RICHARD HARKNESS, Assistant Ranger	Santa Clara County
JOHN HOEPPEN, Assistant Ranger	Santa Clara County
HARRY McGLAUGLIN, Dispatcher	Eldorado County
LAWRENCE E. RUTH, Ranger	Sacramento County
GERVICE NASH, Assistant Ranger	Santa Clara County
HERBERT S. GILMAN, JR., Asst. Ranger	San Diego County
DONALD LANDON, Associate Ranger	Butte County
PAUL L. HAGEN, Dispatcher	Kern County
WILLIAM H. STEPHENS, Foreman	San Benito County - CASUALTY
PHILIP WALKER, Dispatcher	San Benito County
JAMES REED, Assistant Ranger	Santa Clara County
HOWARD STANFORD, Assistant Ranger	Tulare County
J. HAROLD HUNT, Assistant Ranger	Calaveras County
ALLEN PORTIGAL, Assistant Ranger	Orange County
HAROLD F. WILLIAMS, Dispatcher	Tehama County
ARTHUR PIRAZZINI, Assistant Ranger	San Diego County
HERBERT B. KAUFNER, Associate Ranger	Shasta County
WM. T. (JAKE) JACOBSON, Asst. Technician	Sacramento County
EMERY SLOAT, JR., Associate Ranger	Sacramento County
CHARLES W. FAIRBANK, Forest Technician	Sacramento County

California Department of Natural Resources
DIVISION OF FORESTRY

William H. Moore
Director

Sacramento

M. B. Pratt
State Forester

Estelle J. Baxter, Editor

VOL. 3, NO. 2 N E W S L E T T E R DECEMBER, 1943

AGRICULTURAL CLEARING POLICY

Meeting in Ukiah the latter part of October, the State Board of Forestry considered the agricultural clearing policy in effect for the past six years in the north coast area.

This policy, relating to burning standing brush to improve grazing conditions, has been instrumental in clearing approximately 100,000 acres of land in Humboldt, Mendocino, Sonoma, Lake and Napa counties. The bulk of this clearing has been in Humboldt and Mendocino counties.

Permits to burn are issued by the State Forest Ranger in the county concerned, with the stipulation that fire lines be prepared and an adequate number of men be on hand to do the burning. The area must also be reseeded. At a meeting of stockmen at Ukiah last spring, it was agreed with Army officials that permits would not be issued for more than 160 acres so that the burning could be completed in the day with a minimum of afterglow at night.

In the latter part of September several permit fires along the Mendocino coast escaped from control due to sudden adverse weather conditions. One of them did considerable damage on the holdings of the Union Lumber Company, which was obliged to shut down operations for two days to fight the fire. As a result of these fires and after personal investigation by the State Forester, the following instructions were issued by him to the State Forest Rangers in the north coast region:

1. Do not issue any permit unless provisions are made for a representative of the State Division of Forestry to be present when the burning is done.

2. Exercise extreme caution in issuing a permit on an area contingent with logging operations or standing or down merchantable timber.

3. As far as possible, notification of when the burning is to be done should be given to the adjoining owner, especially to the owner of merchantable timber land.

4. Permits are to be issued by the ranger in charge of the county concerned.

At the October meeting of the Board, which was attended by representatives of stockmen, lumbermen, the State Chamber of Commerce, University of California, United States Forest Service, State Division of Forestry and others, these instructions received general approval.

It was recognized that under the law of averages some fires are bound to escape but that the policy was sound and should be carried out with stricter control, especially where burning is done adjacent to timber areas. It was brought out at the meeting that only three fires escaped from control in Mendocino County, where 53 permits were issued.

One of the most significant statements made at the meeting was by the State Forest Ranger of Mendocino County, who declared that at his request all burning was discontinued in the county when weather conditions became bad at the time of the fires on the Mendocino Coast.

It was remarked by the secretary of the California Wool Growers Association that such a request would have had no effect when incendiary fires were of such common occurrence before the agricultural clearing policy was put into effect by the Division of Forestry, and that this policy has been extremely beneficial in reducing the number of incendiary fires and thereby cutting down cost of suppression to the State.

. . . . .

An old lady had a parrot which was always swearing. She managed to put up with this during the week but on Sunday she kept a cover over the cage, removing it on Monday morning. Thereby she prevented the parrot from swearing on the Sabbath.

One Monday afternoon she saw the Rector coming toward the house, so she hastily placed the cover over the cage again. As the reverend gentleman was about to step into the parlor the parrot remarked:

"Cripes, lady, this has been a d----d short week!"--THE FOREST LOG.

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THANKS. .

Received by State Forester M. B. Pratt was the following letter from Natural Resources Director Wm. H. Moore:

> "Now that the fire season draws to a close, it gives me real pleasure to express to you, and through you to each and every one of the employees of the Division, my sincere appreciation for the fine effort, spirit and unswerving loyalty displayed in carrying out the appointed task, and my hearty congratulations on a job well done.

"I want you to know that I realize full well the tremendous handicap under which the employees have labored. But no matter what the conditions, they never let down or backed away from the job. Their labors have assisted in the war effort to the same extent as those actually employed in defense plants. Again, I say a task well done.

"I shall appreciate your seeing that these sentiments are placed in the hands of each of the employees of the Division."

. . . . .

Mental Specialist--And that habit of talking to yourself--there's nothing to worry about that.

Patient--Perhaps not, but I'm such a darned bore!--NATIONAL MOTORIST.

. . . . .

OTHER LANDS, OTHER CUSTOMS

Carlisle Van Ornum, for many years assistant to Superintendent August Bade at the State Game Farm, Yountville, California, is now with the United States Army somewhere in North Africa. He has written of the people and customs there, and while this has nothing to do with forestry matters, we thought our readers would be interested in hearing what he has to say:

"Daily life here for the people, occidental and oriental, has become settled again and they are living as they did before Benito's empire idea was started.

"Not all shops in town are open, but each week a few more are open than the week before. Last Tuesday, market day for the orientals, I went down to have a good look.

"Beginning at sunup the natives for miles around started to market. Some walked, or drove sheep, cattle or goats. Others rode horses, donkies or mules; sometimes two on the back of an animal, even the donkies. There were men of all ages and appearances, children, and now and then a woman. If an old woman, she might be helping herd some animals or if young or middle-aged (one never knows) she might be riding behind her man on a horse or mule.

"For modesty's sake the young or middle-aged women never show their faces. Their shawls or large scarfs cover their heads, necks and shoulders. A section of scarf is pulled diagonally over the forehead and face so just one eye will show. The arms are usualy bare from the elbow down and three or four bracelets are worn on each arm. The women wear a lot of rings. Their voluminous skirts are ankle length. Shoes may or may not be worn, but always the silver anklets.

"Dress material is gaudy and usually pretty clean. The scarfs are very bright, reds, greens, purples, plain colors or designs. Now and then a black or white scarf is seen. So, when one sees a woman it is usually scarf, dress and jewelry that one sees. Men are not supposed to look at or speak to women in passing.

"The market is about two blocks in area. One block is given over to the livestock, the other block to everything else. On the edges the horses, mules and riding equipment are parked. Near the market on each side of the road merchants display grass or hay. The hay is carried in a coarse net on the back of a donkey and hundreds of donkeys wait patiently with the bundles of grass or hay while groups of men sample, buy and sell.

"Animals over here are used, I guess, until they drop dead. They are in all conditions and the Society for Prevention of Cruelty to Animals is unheard of.

"Two lines of concrete stalls are to one side near the street, in the market proper. On the far side of the street are date merchants in wooden stalls. Boxes of loose dates and chunks of pressed dates fill the counters. Sections of pressed dates are cut off the chunk with a knife, or as one man does, with a broken section of automobile spring. The pressed dates are evidently used at home or in cooking as only the loose dates seem to be eaten.

"The concrete stalls, about six feet deep and that wide, have a sloping tin roof. In these are displayed shoes, sandals and shoe repairmen; a knife sharpener with a big wheel, drip can and treadle; cloth--all kinds--new to rags; junk; bottles; tin cans; scraps of metal; wooden spoons and plates; canes and walking sticks.

"Near one side is a produce building with stalls around as well as in.

"Here are sold green onions, carrots, cabbage, chard, loquots, green tomatoes, peas, beans and Italian squash. The produce is on shelves, benches or baskets. The onions are the only first-class looking vegetables.

"There are a few stalls selling mutton. Few natives, or orientals, buy this fresh produce. Most of the customers are occidental townspeople, who dress like any country folk.

"In front of the produce building and along the street are wagons or carts with other items. One vendor sells perfume. The liquid is in large bottles; a purchaser takes a smell and then buys a small bottle or takes out his own and has it filled.

"Another cart is a drug cart and has dozens of round boxes filled with all sorts of things on display--different colored powders, chalk, herbs, twigs, roots, nuts, shells and pieces of metallic ore. From looking on and getting the drift by what one sees, it is apparent that when a customer has an ailment the druggist makes a diagnosis and then selects a little from this box, a little from that box, a pinch of powder perhaps, a sliver of nut, a scrap of root, and places it in a brass mortar and pounds it to dust, pours it into a little piece of paper and hands it over.

"Several jewelry vendors sit along the curb selling costume jewelry of glass or wooden beads, cheap bracelets, rings, etc. And fortune tellers, too, ply their trade, sitting cross-legged before a fine woven mat about the size of half a newspaper, with a pile of pale pink sand on it. When a customer would squat down the fortune teller spread the sand out smooth, and with a far-away look in his eye or with one eye half shut, draw circles, lines both straight and curved and then with mystery tell his yarn.

"Farther along were three small tents each holding a cross-legged sitting man behind about a dozen and a half small sacks of different kinds of herbs and spices. The sacks were dark brown and about the size of 50 lb. sugar sacks, although several 100 lb. sacks held dried pimentoes and peppers. The pimentoes were bright red while the peppers were dark, almost mahogany.

"These tents held a lot of color and smells. I am sorry I am not a specialist on spices, for there were dozens of them. Some were seeds like hemp, flax, turnip, lettuce, etc. Other sacks held leaves and twigs. Three or four sacks held powder, chile, paprika, etc. All the edges of the sacks were rolled down to where the contents were visible. A customer would come up, give his order, and the merchant would put a piece of paper--sometimes a quarter of a newspaper--on the pan of his scale, put a weight on the other pan, take a long-handled wooden spoon and spoon out the order upon the paper. Sometimes the order was a mixture, sometimes only one kind of spice. The merchant would then roll the order up like a little cone, turning the bottom or point up and the top in, and hand it to his customer.

"On the ground in the open part of the market place merchants spread their wares on the ground or on mats. Anything is bought and sold--bottles; tin cans, some with the tops cut out, some rusty; clothing, usually second or third hand; bedsteads; mats made out of pale green native grass; broken furniture, etc. It was like a second hand junk store.

"On the back of several of the concrete stalls a rug merchant had his display. The rugs were quite large, 10 or 12 feet by 14 or 15 feet. One rug had stripes of creamy white, black and orange about six inches wide, one band following the other. The other rugs were simple geometrical design. As these rugs were new the colors were rather harsh, not pastel like oriental rugs I have known. They were well made and with good tuft, knotted in the oriental manner.

"At roadside eating places small pieces of mutton or beef are put on metal skewers and roasted over a charcoal fire, cooled off and then served. The meat is eaten off the skewers. Sausages are fixed the same way. Chunks of black bread and coffee complete the menu.

"One vendor sold milk. He had several buckets of milk and some cups and would dip a cup into the milk and pass it over the counter to the customer.

"The costumes of the men were quite varied and in all states of repair. Some dressed in occidental trousers and coat, but without the collar to their shirts. They may or may not wear a turban or fez. There are three styles of fezes: soft, small, like a skull cap; soft, large, which is about as high as a top hat; and hard, medium which is hard like a bowler, no brim, conical but with a flat top with tassel. In this part of the country most of the fezes are red, a very bright red, although I have seen a few black ones. The turban is wound over a soft small fez, is usually white, with many wrappings around the fez. One wraps under the chin and over the top (protecting the ears) and several wrap around the neck.

"A lot of men dress in baggy trousers, some black, white, green or grey, with a fancy vest or jacket. Over this the hooded robe is worn. This robe has short arms and is long, reaching to the ankles. It is very loose fitting and is called a "Burnoose". The hood is quite large and can be drawn forward shading the eyes and

face from the sun and rain, or thrown back allowing the turbaned head the breezes. I have even seen a few men throw the hood back over their neck and carry packages in it. The Burnoose seems the main dress and one sees men and boys wearing it everywhere, in the town, at market, out in the fields and hills. It is made of wool and is quite light in color and in weight.

"The natives are usually tall and rangy or slender, and sunburned and weatherbeaten. Some are fair and blue-eyed, others almost black. Many tribes of people have passed through and over this old part of the world. Even with the struggle for life they are a happy and jovial lot and enjoy a joke or an American situation in making himself understood. They all want to help and there always is much jabbering and gesticulation."

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Golfer--Notice any improvement since last year?

Caddy--Had your clubs shined up, haven't you, sir?

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STATE NURSERY OUTPUT

During the 1942-43 season the State Nursery at Davis furnished a total of 12,972 trees and shrubs to Army camps. These were worth $3,041.30. In addition, 29,000 cork oak trees were sent out this year for planting in suitable locations. These trees are distributed under the direction of Woodbridge Metcalf, Extension Forester, University of California.

. . . . . .

CORK OAK DISTRIBUTION

During the past two nearly nearly 75,000 cork oak trees have been planted in California under direction of County Farm Advisors, State Forest Rangers and other forestry personnel, according to Woodbridge Metcalf, Extension Forestry, University of California Agricultural Extension Service. The collection of approximately 9,000 pounds of cork oak acorns also is reported.

Nearly 10 tons of cork have been stripped from California trees and tests show it to be fully equal in quality to that imported from the Mediterranean region, Metcalf declared.

A cork oak distribution program is now under way and more than 100,000 cork oak seedlings are available for the current planting season through the cooperation of several agencies. State Forest Rangers will transport trees to State Ranger Headquarters for distribution to authorized applicants in the various counties.

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Telephone operator to new girl she is breaking in: "No, honey, you say 'just a moment, please,' not 'Hang on to your shirt, mister.'"

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LETTERS TO THE RANGERS

One State Forest Ranger received the following letter this month:

"My Dear Sir:

I am writing you to say I went to the stable this morning to feed my stalk. and found my large mule dead. he seamed to have died suddenly. Whether from sleaping disease or something else, I could not say.

I hired . . . . . to come and drag him away. and think his carcas should be burned. Conditions are not good here for a fire, and even if I had a permit I couldn't undertake it. (Do you know if the County has equipment, and would come and burn the mule for protection of any disease or not!)

I am not able to do it. But should a couple of men come, I will be glad to see they have plenty to eat. and help out as best I can.

Please drop me a line.

Sincerely, "

Anyone want to volunteer?

. . . . . .

OFF TO THE WARS

It's Ensign Leonidas T. (Pete) Petersen, now. Pete left for Cornell University where the Navy has assigned him for the time being.

MISSING IN ACTION. . .

Below is copy of a letter received at Capitola, California, November 15, 1943, by Mrs. H. N. Ormsbee: (Sidney Ormsbee, formerly with the State Division of Forestry, has been reported missing in action.)

"Dear Mrs. Ormsbee:

We, of the squadron with whom your son served since last fall, want to let you know that we have joined our hopes and prayers to yours for the safe return of your son, 1st Lt. Sidney C. Ormsbee, who is missing in action. We realize the anxiety and strain that you are enduring in these dark days of waiting. For this we wish to extend to you our sincere sympathy.

Your son has been our friend and comrade in this squadron, and through many months of that association we found him to be one of our finest bombardiers and a 'good soldier', always ready to do his part and more. His friendly personality and happy nature has endeared him to everyone with whom he came in contact. He is a fine leader, respected and admired by all officers and men of this organization. We sincerely regret that he is not here with us now, for the squadron and the Army has great need of men of his personality and ability at this time.

We are sorry that we have been unable to gather any information, other than that one member of his crew escaped and is with us now. Crews who were in the formation with your son reported that all members of the crew had bailed out and all parachutes were seen to open. Therefore, there is a possibility that your son, with other members of his crew, may have parachuted to safety and have been picked up by the enemy. Each of us here is clinging to this possibility and hoping it is the answer.

May our hopes and prayers be answered so that your son, our friend and comrade in arms, will return from 'the land of the missing'.

With sincere sympathy for you during these days of anxiety,

EDWIN P. BUGEE, Captain Air Corps
Exc. Officer"

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FIRE RECORD

A comparative record of forest and structural fires in California on lands protected by the Division of Forestry, for 1941, 1942 and 1943 as of October 31, follows:

Number of Fires:

	1941	1942	1943
Forest	5289	4843	5789
Structural	1823	2041	2054
Totals	7112	6884	7843

Acres Burned:

Timber	7758	5982	9477
Brush	90566	311359	210504
Grass	171671	256985	185402
Hay and Grain	4083	4525	7441
Totals	274078	578851	412824

Damage in Dollars:

Timber	5995	12826	25372
Range	93795	97624	111751
Hay	53434	77174	185003
*Improvements	147884	323216	817581
**Structural	3665606	3696495	3214640
Totals	3966714	4207335	4354347

*Damage as result of forest fires
**Damage by purely structural fires

. . . . . .

Charles Ennis, Division Engineer, vouches for the veracity of this one.

"A certain State Ranger, chafing under our rigid requirements regarding rights-of-ways, found himself in a position where it was necessary to contact a particularly important land owner for a telephone easement. Before leaving his office he began to guess what the land owner would say.

"He probably won't give it to me," he growled. He went a short way from his office, "The old skinflint has a lot of nerve refusing me a right-of-way." By the time he reached the land owner's house he was burning up. When the owner opened his door the ranger shouted indignantly, "To H. . . with you and your right-of-way!"

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WEATHER WISE

Back in June it was noted that packing heat into a gas at one and the same time increased its desire to expand. This we reasoned resulted from speeding up the battering, colliding flight of the tiny gas particles, called molecules.

It was off the subject at that time so we did not mention that the hops and jitters (vibrations and rotations) of the "held-down" molecule within a solid or liquid are similarly accelerated by applying heat. Of course, visibly, in other than the increased pressure of a heated gas, the only evidence of greater energy content is in the warming of the substance. Temperature, it appears, is a measure of the degree of excitement existing among the molecules.

Do I hear someone say, this "climb of the calories" up the temperature scale is all very well, but it happens that there comes a point where simply warming a substance fails to make the thermometer ascend? That fact is as true as gospel, and the point in reference is called the melting point, (M.P.) or freezing point, depending on the point of view.

This is the degree on our heat measuring scale at which more added heat simply "disjoints" a solid substance, as it were. At this temperature the heat "snaps" the rigid, self-adhering bonds within the crystals of the mass. The more heat that is applied, the more thorough this breakdown becomes until all the substance is free to surge and spill about. If not restrained by containing walls, each particle then flows downward to "base level" in response to the pull of gravity. And thus it is that a liquid is born.

If we continue to add heat after the entire mass runs "watery", then once more the temperature will climb upward while vapors commence to lift from the surface and waft away. Finally, the rising thermometer comes to an abrupt halt again and here the now bubbling liquid undergoes a further breakdown. It now "takes wings" and flies about, a gaseous mass like our own atmosphere, for instance. The temperature at which this happens is called the boiling point (B.P.) or condensation point, depending on the way you care to look at the phenomenon.

The three forms of matter, <u>solid</u>, <u>liquid</u> and <u>gas</u>, are labeled "states of matter" and a transformation from one form into another is called a "change of state".

As has been indicated, a solid cannot perform this Houdini act of changing to liquid without drinking up quantities of heat, which, as you now realize, does not register as a temperature increase. Likewise, when a liquid puts on the disappearing act to become a vapor, and most gases don't even have a color, there is no temperature rise to indicate the vast quantities of heat being absorbed. This capacity of matter to perform a sleight of hand with heat, is a very important fact.

Heat which thus "slips out of sight" is termed latent heat. It is hidden, as we are aware, in the sense that it fails to give evidence of its presence in degrees of temperature increase, as would be shown on a heat measuring device (thermometer). Let us repeat, that this so-called latent heat is not absent at all, but simply went into breaking down the "brotherly" bonds of affinity between the molecules. In fact, in gasses there is no affinity left and all the particles fly around independently, as though they had no common ancestry or interest in unity whatever. There is no love lost between these "dinky" bits of gaseous matter--they are divorced and appear to like it.

That is why gases have no surface and diffuse about through space like giddy will o' the wisps, without a home.

The atmosphere, despite this loose and easy way of gases, does not leave us stranded, because it is held to the earth through the gravitational attraction between this bulky sphere of ours and the individual air particles, not by reason of any mutual affection (attraction) between the molecules themselves.

In closing may we return to an earlier theme. It is restful to do a bit of reminiscing, now and then.

Free molecules, those diminutive thingamajigs, are not only invisible and slippery, but they are belligerent, as evidenced by the pressure they exert when put in "concentration camps". These characteristics make all and everyone of them difficult subjects for any narrative.

When in the enticing grip of energy, these little bits, which individually are almost nothing, and collectively are everything, put all the action and impulse into driving this universe. Energy, be it heat or otherwise, is the dynamic, elusive and tricky quantity, X.

What is it? Well, it gives rise to all life, movement and change. What is it? Well, it controls the "mites" and so guides, governs, and goads the spheres. It spins and flings the molecules and so weaves the design and pushes the cosmic whole. Nothing can escape energy. That is why everything changes in time.

We still have not defined energy, although we have discussed much of what it does and is capable of doing. It is just one of those things that it would be nice to know all about, but just can't. We do know this, however, the behavior of the atmosphere is all wrapped up in this world-shaping--or is "shaking" the word--energy program. Any thinking man must come to wonder about this subject. It is a vital part of the vast scheme of things which, although wide-sweeping, touches us very closely. The account of energy is written no plainer than in the story of the weather in its many and diverse expressions.--HERMAN P. MEYER, ASST. FOREST TECHNICIAN.

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California Department of Natural Resources
DIVISION OF FORESTRY

William H. Moore, Director — Sacramento — M. B. Pratt, State Forester

Estelle J. Baxter, Editor

VOL. 3, NO. 3 NEWS LETTER JANUARY, 1944

NATIVE AND EXOTIC TREES IN CALIFORNIA

by M. B. Pratt, State Forester

To stimulate interest in cork oak planting and also to become better acquainted with little known trees and shrubs growing in California, an inspection tour was arranged by Woodbridge Metcalf, Extension Forester, University of California. Members of the party included George Greenan, Crown Cork and Seal Company; O. M. Evans, U. S. Forest Service; C. R. Tillotson, U. S. Forest Service; R. H. Weidman, Director, Institute of Forest Genetics, Placerville; M. Van Rensselaer, Director, Santa Barbara Botanic Gardens, Santa Barbara, and State Forester M. B. Pratt.

Of the many specimens noted, below are observations regarding some of the more prominent species.

EUCALYPTUS

On the Los Berros Mesa near Arroyo Grande, Oceano, Nipoma and Guadalupe, San Luis Obispo County, were eucalyptus plantations originally covering about 5000 acres. Much of this area has been cleared for farming purposes but there still remains about 2500 acres planted with the idea of producing hardwood lumber. Chief use that has been made of these trees has been for fuel. These plantations are an interesting example of the eucalyptus boom 25 to 30 years' ago when stock was sold in New York, Chicago and other eastern cities to many people who were assured they could expect large returns from their investments. Unfortunately it was found the wood could not be seasoned to permit its use for furniture and other purposes for which its promoters claimed it was suitable.

SANTA BARBARA BOTANIC GARDEN

This garden comprises 35 acres, maintained by the Santa Barbara Garden Association under direction of M. Van Rensselaer. It is located in Mission Canyon a short distance from the Los Padres National Forest. It is an historical spot inasmuch as it contains the remains of the Mission Dam and Aqueduct built by the Indians in 1807 to supply water for the Santa Barbara Mission.

The garden is planted to native California shrubs and trees, one of the most striking being the Santa Cruz Island Ironwood, Santa Barbara County's official tree. This tree grows from 25 to 50 feet high, has dark green, glossy fern-like foliage and small white flowers which appear in clusters. When in bloom the tree, from a distance, has the appearance of a white cloud. It grows naturally on the islands

off the southern coast of California and has a very ancient lineage. Lyonothamus, generic name of this tree, means Lyon's shrub. This name was given in honor of William S. Lyon, who sent specimens of the tree to Asa Gray. It is interesting to note that in 1892 Lyon was superintendent of the forestry stations at Santa Monica and Chico, established by one of the early State Boards of Forestry.

Van Rensselaer is well known as an authority on Ceanothus and has many species of that shrub growing in the garden which have been collected by him from all parts of California. He is gradually adding native trees as well as shrubs and will probably have to enlarge the garden to find room for all the species found in this State. The Santa Barbara Botanic Garden is a place of beauty and a spot where anyone can secure relaxation and interesting information regarding our native trees and shrubs.

In the evening of the day we visited the garden a meeting was held there. Chief speaker was Woodbridge Metcalf, who gave an interesting talk on cork oak and what was being done to secure its establishment on a large scale in this State. Trees were distributed at the close of the meeting to all who would plant and care for them.

At this meeting commendation was given to the volunteer rural firefighting company in Mission Canyon that was instrumental in controlling a forest fire a short distance from the Botanic Garden. The fire started on a dry, windy day and was controlled within 30 feet of the brush. Had it escaped there is no telling the damage it would have caused to the watershed above in the National Forest, and perhaps to the garden.

GOULD ESTATE

The Gould Estate in Montecito near Santa Barbara revealed an amazing collection of rare trees, as well as a recently-established cork oak plantation of about 50 trees. We were informed that one rare tree from Australia, bearing a formidable scientific name, was the only one of its kind in North America. It did not appear to have any common name so its identity must remain incognito to the layman.

CARPINTERIA

In Carpinteria, near Santa Barbara, is located the largest Torrey pine in California. This is a tree that grows naturally only near Del Mar, San Diego County, and on Santa Rosa Island. Its height is from 40 to 60 feet in its native state, but it often becomes a tree from 80 to 100 feet in height when transplanted. Another large Torrey pine is located at the headquarters of the State Division of Forestry, Orange.

Near the Torrey pine at Carpinteria is a fine specimen of Lagunaria, commonly called the Tree Hibiscus. It is native to Australia. The flowers are large and Hibiscus-like. Although beautiful to behold when in bloom, the tree has its faults as I found when I got some of the fine hairs from the seed capsules on my face and hands, causing me to mutter and scratch for hours.

RANCHO SANTA ANA BOTANIC GARDEN

This garden is located in the Santa Ana Canyon, Orange County. Plantings are in charge of Mr. Wolfe, an authority on cypresses, of which he has specimens collected from all parts of California. The garden, embracing 200 acres, was founded by Mrs. Susanna Bixby Bryant as a place to grow and study trees, shrubs and flowers native to California. There are extensive plantations of various species kept thrifty through a watering system that covers the entire area.

This system was of great assistance on a fire November 8, 1943, which burned 60 acres of the garden but was kept out of the most valuable plantations. The total area of this fire was approximately 8000 acres and was the largest in size that had occurred in Orange County for many years.

An interesting feature of the experiments made on the various cypresses by Mr. Wolfe is that he has found that the Forbes cypress, also known as the Tecate cypress because of its occurrence on San Diego County's Tecate Mountain, is the best species for ornamental planting as well as most immune from a cypress canker, so fatal to most species of this genus.

HUNTINGTON BOTANIC GARDENS

These gardens are located at San Marino near Pasadena, in charge of Curator Hertrich, who has been associated with them for 40 years. We were privileged to be conducted by him on a tour that took most of the day and during which we witnessed a bewildering array of trees, shrubs, cacti and cyads from all parts of the world.

Primary purpose of this garden is for experimental purposes. Mr. Hertrich was originally employed by Mr. Huntington as a gardener and during his long period of service has transformed a fruit ranch into an international show spot. In one part of the garden there is a cactus patch covering 15 acres in which are 25,000 specimens embracing 2600 varieties and species. Another section consists of cyads, oldest and rarest of all horticultural specimens. Some plants are hundreds of years old but only a few feet in height. One fierce-looking specimen bore the specific name of Horridus.

One garden is devoted to camellias, azaleas and rhododendrons; another to palms. There is an area containing a test planting of more than sixty species of rubber trees and plants with the idea of finding out if any species can be grown commercially in this country. Another section contains 162 species of Eucalypti which were secured from Brazil.

A new tree to many was the Keteleeria, which grows naturally in some parts of China. It has a leaf like the California nutmeg and a cone resembling that of the Western white pine, except that instead of the cone being pendant, it stands erect on the branches, upside down. The sight of this tree caused much excitement among all those present because of its spectacular appearance and extreme rarity.

Another rare tree was the Cypress pine (Callitris robusta) which is native to Australia, New Caledonia and Africa. It has dark green foliage and woody cones resembling those of the Monterey cypress. The tree differs, however, from that pine in the arrangement of leaves and cones in whorls of three.

I came away from this garden footsore and weary but with the memory of an unforgettable day spent in a wonderful arboretum with a great botanist.

WHITAKER FOREST

From the exotic trees of southern California to the snow-covered Sequoias of the high Sierra constituted a very sudden change of environment.

In Whitaker Forest, which Woodbridge Metcalf and I mapped and estimated in 1915, we found the caretaker and his wife out in the snow seeing if they had anything in their bear trap.

We went through the forest inspecting the timber, especially the old and second growth Sequoias, and the thinnings that had been made by the Extension Forester. We looked over the buildings used by the 200 or more 4-H Club boys and girls that come from the San Joaquin Valley during the heat of the summer. Many of them are now in the Armed Forces in the forests and jungles of other lands but not one will forget the days spent at Whitaker Forest. Also, we saw the Woodbridge Metcalf swimming pool constructed by the Maxon Ranch CCC Camp and the State Forester's tree, a Sequoia 16½ feet in diameter.

CORK OAK

During the entire trip we were shown cork oak trees nearly every place we went. Some were planted in the early 70's but the majority are from 25 to 30 years old.

In some cases the bark had been stripped by Greenan and Metcalf and shipped to the Crown Cork and Seal Company, Baltimore, where it was successfully processed. In no case did we find the stripping had injured the tree.

In southern California we saw a long stretch of highway near Chatsworth on which cork oaks were planted by Stuart Flintham, first County Forester of Los Angeles County. None of the cork oaks in the south bore acorns in abundance but in Bakersfield and Fresno most of the trees yielded large crops.

We collected 50 pounds at Bakersfield and Deputy State Forester Metcalf collected one hundred pounds of acorns from trees at Fresno near Roeding Park. Also, he has about 1500 young trees grown in the State Nursery, Davis, for distribution to anyone in his district willing to plant and care for them. In this connection it is expected that as a result of this trip planting of cork oaks will be stimulated in the sections of the State visited.

There is no doubt in my mind but that a cork oak industry can eventually be developed in California. Much credit is due to Metcalf and Greenan for what they have accomplished with cork oak in the past few years.

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KILLED IN ACTION

First Lieutenant Sidney C. Ormsbee, former Assistant State Forest Ranger, Division of Forestry, was killed in action, presumably in the European theater of war, on August 16, 1943. Previously reported as missing, notification was received by Ormsbee's parents from the War Department that he was killed.

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"BURNING AN EMPIRE"

"Burning an Empire", by Stewart H. Holbrook, describes some of the great forest fires occurring in this country. The Peshtigo disaster of 1871 in Wisconsin, in which 1152 persons lost their lives and 1,280,000 acres of forest was burned, is in the author's opinion,". . .by far the worse, the most deadly, of all the great forest fires, before or since".

Holbrook, who has a keen sense of humor, recently told of a man living in Florida, who ordered a copy of his book. This man wrote that he was an old baseball player and could hardly wait until the publication arrived to read about "Burning an Umpire".

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FOX FIRE

In the WOODEN NUTMEG, publication of the Connecticut Department of Forestry, is given the following explanation of "fox fire":

Irene Whittemore of Putnam writes asking about some wood found in Eastford which was luminous in the dark, especially the inner layers. She asks what causes it.

This is an example of what is called "fox fire", a name coming down from the past. It is caused by a fungus or mushroom which sends its thread-like mycelium or root-like structures ramifying through the mass of wood deriving its nourishment from the wood and gradually rotting it until it disintegrates completely. The fungus threads are luminous at certain times especially following periods of warm rains. They do not retain their luminosity for long. If you examine the wood by daylight you will find it looks like ordinary rotting wood, usually moist and soft enough to break easily under your fingers.

It gives off a greenish, ghostly light and when seen in the woods at night has given rise to many tales of haunted houses, ghosts and even panthers and wildcats. Reports are current of entire logs, trees or fence posts giving off this ghostly light. The rot looks much like the dry rot found in sills and beams of buildings.

Tops of old wooden well curbs, old water wheels and rotten trees in the forest have all been reported as showing "fox fire" under the right conditions.

The story is told of Hawthorne as a boy encountering a large luminous tree in the forest alongside the canal where the tow boat on which he was a passenger had stopped. He was so interested in finding and examining the "fox fire" that he missed his boat and had to tramp miles to catch it.

One unusual use to which "fox fire" has been put was to put a stick of it near a deer salt lick and then train a rifle on it so the deer had to pass between the two. The so-called hunter pulled the trigger when the deer's body shut off view of the "fox fire" and the previously aimed rifle did its work.

Bacteria often cause decaying meat or fish to glow in the dark and an instance is on record where a neglected butcher's block glowed from the putrifying meat on its surface.

Editor's Note: Have any of our readers seen this phenomenum in California?

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A Division of Forestry employee in Fresno was recently confronted with a problem typical of these days of confusion and uncertainty.

An excited lady rushed into the office and exclaimed that the walnuts on her trees were turning black and falling to the ground, and demanded advice on how to correct the situation. The Forestry employee was stumped, too, and referred the woman to the U. S. Department of Agriculture, who informed her her walnuts were merely "ripe".

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THEY SLUGGED IT OUT IN CALIFORNIA
(from THE OLD LINE ACORN, Maryland)

A recent publication of the California State Division of Forestry entitled "Then and Now" presents an enlightening account of the struggle (and it was a struggle!) for forest conservation in that commonwealth. The author is Estelle J. Baxter, who also edits the California Forestry News Letter, which makes her a confrere--if that's the way it's spelt--of the Editor (P.T.) of the ACORN. And a very distinguished confrere, at that.

The focal fact about forest conservation in California is that it was only in 1938 that the State Forester was placed under civil service. Before that, the present State Forester, M. B. Pratt, and his predecessors, were under almost constant fire by factions anxious to obtain the job for some political favorite of the moment. Politics let it be said, played a big and unlovely part in the fight to put forest conservation on its feet in California. There were friendly Governors and hostile Governors and

indifferent Governors. There were Forestry Boards which did nothing at all. There were factions out to sabotage the effort for forest fire control, and which nearly suceeded in doing it. Forestry bills introduced into the Legislature were emasculated by amendments until they meant little or nothing. And all this, be it remembered, goes back to 1905, when the first State Forester, E. T. Allen, was appointed.

The history of forestry in California, then, is that of a long fight against heavy odds waged unremittingly by professional foresters in the State's service and by public-spirited citizens who gave them support. Progress had to be made a step at a time, and the advance defended against counterattack. Today, the fight can be said to have been won. For the fiscal year 1944, the total budget of the State Division of Forestry, including State, Federal, and cooperative County funds, amounts to approximately $4,000,000.

Miss (or is it Mrs.?) Baxter's history brings home to us here in the Maryland Free State the realization of how **lucky** we have been not to encounter political conditions like those that for so many years were the bane of forestry in California. Our own fight for forest conservation culminated in 1943 with the passage by the Legislature of the Forest Conservancy Districts Act, which had been made a "must" item by Governor Herbert R. O'Conor. This Act, designed to insure the scientific management of all privately owned timber-lands throughout the State, will be put into effect on January 1, 1944. It marks a milestone in the history of forest conservation, and we're all rather proud of it. But we're none the less conscious of the striking contribution made by California to that same cause. "Then and Now" should be an inspiration to all fighting foresters.

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Private Rooney was called before the lieutenant. "Rooney," said the officer, "take my horse down and have him shod."

Three hours later the lieutenant was beginning to get impatient. He called for Rooney again.

"Look here, Rooney," he said, "where's that horse I told you to have shod?"

"Omigosh!" gasped Rooney, "did you say SHOD?"--NATIONAL MOTORIST.

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The Navy's ranks were swelled by one more recently when Assistant State Forest Ranger Francis Hodgkins donned the Navy blues.

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GOVERNOR WARREN APPOINTS NEW FORESTRY BOARD

A new State Board of Forestry was appointed this month by Governor Earl Warren, replacing the hold-over Board from the former administration. Effective January 10, new board members are: J. J. Prendergast, Redlands; Kenneth R. Walker, Westwood; Wendell Robie, Auburn; Frank W. Reynolds, Ukiah (re-appointed); Domingo Hardison, Santa Paula; W. S. Rosecrans, Los Angeles, and Roderick McArthur, McArthur (re-appointed).

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California Department of Natural Resources
DIVISION OF FORESTRY

William H. Moore
Director

Sacramento

M. B. Pratt
State Forester

Estelle J. Baxter, Editor

VOL. 3, NO. 4 N E W S L E T T E R FEBRUARY, 1944

WHO CAUSES FIRES IN THE WOODS?

By L. F. COOK

Are we using birdshot in our forest fire prevention campaigns where more concentrated buckshot might produce some effective results? Why is it that despite intensive prevention efforts by all conservation agencies we continue to have about the same number of man-caused fires each year?

We have been successful in reaching the great majority of the woods-using public to the extent that almost everyone contacted in the forest will readily say that he is familiar with the need for care with fire, and will emphasize that he, personally, is very careful. But we still have man-caused fires every year, and apparently a further step is needed if we are to reduce the number due to carelessness.

In an attempt to find some solution, the National Park Service fire reports for the past three years were rather carefully analyzed according to the following classes of responsible individuals: travelers, persons employed in the area, residents in the area, people living near the area, and a miscellaneous class which included fires of uncertain origin or caused by locomotives.

All fisherman, camper, visitor, hunter, picnicker, hiker, and horseman fires were classed as traveler unless otherwise localized, so that this group undoubtedly includes many which may belong in classes of more local origin. It is also quite probable that many fires were placed in the traveler category by the reporting officer due to lack of evidence to the contrary.

In other words, local residents have been given credit for less fires than they deserve. The nonresident traveler or user of the woods seems to have been given responsibility for the majority of the fires by practically all protection agencies, and our prevention efforts have been largely directed at his education.

Some of the interesting results of the analysis of National Park Service fires, which seem to warrant consideration in planning fire prevention campaigns are the following:

1. The traveler class (the general nonresident user) was apparently responsible for only 47 per cent of the total number of man-caused fires, even though it is the "catchall" for fires which could not definitely be attributed to local residents. In other words, more than half of the fires were caused by people living in or near the areas.

2. People living near the areas were the next largest group, with apparent responsibility for 25 per cent of the total number of fires.

3. People employed in the areas, and residents within the areas, were each responsible for about 12 per cent.

4. The unclassified and miscellaneous group, mostly locomotives, were apparently responsible for about 4 per cent.

With about half of the fires caused by the general public we must continue to direct intensive prevention effort toward instructing and reminding them of the need for care. Apparently the methods used have been effective, since despite greatly increased use of the woods the number of fires has not materially increased.

It appears to be the local individual who has not as yet been sufficiently converted or impressed with the need for care with fire. People living in or near forest areas have almost everywhere been subjected to intensive prevention education and reminder. They are generally experienced with the use of fire and have seen its effects. They know the adverse results (and perhaps from their viewpoint the supposed beneficial results) of fire. The rancher, fisherman, hunter, camper, woods worker, and rural dweller are all more or less familiar with the rules regarding care with fire.

The aphorism "familiarity breeds contempt" may perhaps be the key to the problem. Prevention is an old story to them, and they resent any implication that it may be directed toward them personally. They cannot be directly told that they are careless with fire. Because of their belief that they are familiar with the proper use of fire, they may actually be a much greater threat than the tenderfoot, who at least tries to remember the rules. They are also much more difficult prospects to whom to sell prevention, and continued generalized efforts will not accomplish our purpose.

No general pattern of causes appears to exist, since each section of the country differs from every other. It is largely a job for the local protection man to analyze his own problem and devise approaches.

The results attained in those areas which have made an intensive local attack on the local problems indicate that success can be quickly and effectively accomplished, even where the careless use of fire has existed for generations. A sympathetic appreciation of local contributing factors and real salesmanship which shows the advantage to the local people and community are needed.

The experience and record of fires in the national park system along these lines may not have general applicability, but the 162 areas represented are located in practically every forest region of the country. On the basis of visitor use, the parks probably receive as intensive traveler activity as any forest area; therefore, the proportion of nonresident fires should be higher than average. If that is the case we all need to intensify our efforts toward the local sources of fire in order to reduce the number.--JOURNAL OF FORESTRY, December, 1943.

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CONTROL OF WHITE PINE BLISTER RUST

By Warren V. Benedict, Senior Forester
U. S. Dept. of Agriculture

During the past decade substantial progress has been made in control of the white pine blister rust. Roughly, about two-thirds of the job of initial ribes eradication in the Inland Empire Region and one-third of the initial work in the Sugar Pine Region has been completed. However, we still have a long way to go before complete control is established, and we aren't going forward very rapidly during the war period.

For example, during the past season, the 1943 season, we covered approximately 36,000 acres in the Inland Empire and around 64,000 acres in the Sugar Pine Region. As control progress goes, that isn't very substantial coverage for any one year. We should be making some five to ten times that coverage to insure keeping adequately abreast of the rust on all white pine lands.

Our primary objective during the curtailed period of the war is to safeguard work already done. In other words, to do the necessary rework when due. So far we have been able to meet that objective. On the other hand, blister rust is no respecter of man's fancies, and like time and tide, its spread and development go on, unmindful of a curtailed program or economic conditions.

The rust has nowadvanced southward to about the latitude of Lake Tahoe in the Sierra Nevada of California and to about the San Francisco Bay area in the Coast Range. Within that area of general spread there has developed a number of infection centers on both pines and ribes. Thus far it appears we have been able to pretty well clean out the known infection centers from the commercial sugar pine areas. Such treatment has been possible because the rust, to date, is only just gaining a toehold down there and infection centers are few and scattered.

In northern Idaho, on the other hand, the rust is firmly established in almost every drainage and there is no possibility of retarding its development by such treatment. That will soon be the case, of course, throughout the Sugar Pine Region as well. Our effort there at infection eradication along with ribes eradication in those favorable spots where the rust first becomes established and in which it develops most rapidly is intended only as a delay measure--an effort to help hold the rust in check until a more complete program can be resumed.

I would like to emphasize in connection with blister rust control that it is <u>control</u> we are striving for, not eradication of the disease. A number of well-meaning foresters going out in the blister rust control units and seeing a canker here and a canker there and maybe a tree dead or dying, are inclined to be a little bit overly critical as to the effectiveness of control measures.

Remember blister rust is here to stay, and we have to learn to live with it. By learning to live with it I think of its control like men in fire control think of

controlling fire. We might just as well say that the fire control program is not effective because fires still occur. No, we have learned to live with fire and have learned to keep our losses down to a minimum so we can effectively grow our timber to maturity.

It is the same thing when we talk about control of blister rust. We cannot eradicate the disease any more than we can eradicate fire. We can, however, whip it down to the point where we can live with it and bring a crop of white pine through to maturity in spite of its presence. That point should be emphasized.

Now a word about the manpower problem, for in control work we utilize a lot of labor. Last season we had about three thousand men employed on blister rust control in the west, in some sixty odd camps. I should have said "boypower" because sixteen and seventeen year old boys from the high schools were largely the source of the labor we used last year. Along with the boys we employed their high school teachers, the science and physical education teachers, particularly, to manage the camps and supervise the field work.

Admittedly this type of labor isn't the equivalent of normal woods labor---far from it. Nonetheless, we were able to keep up pretty well with our objective of maintaining control on areas already worked, and that is particularly important.

Here again the continuity of the blister rust control job is important, just as important as continuity in fire control. This does not mean that indefinitely we have a heavy job of ribes removal confronting us, but until such time as the ribes plants are reduced to the point where they do not regenerate, there will be need for some periodic and properly timed follow-up work. Any interruption in the application of control, at the time and places needed, will not only result directly in more pine infection, but will permit more ribes to become established and prolong the period of attaining their permanent suppression.

Along with student labor, convict labor was tried out for the first time in California this year, with convicts obtained from San Quentin and Folsom penitentiaries. Through a cooperative agreement with State prison authorities prison camps were set up in the woods. Management of these camps was the responsibility of the prison officials. The work program, however, was supervised and financed by the work agency. Here again the labor was not as effective as normal labor, but through its use we were able to get effective control work done.

Plans for an expanded control program, sufficient in scope to protect the western white and sugar pine forests have been prepared and submitted as an important project in the post-war period. Until that time we are hopeful, through judicious use of limited resources, to "hold the line" on the area worked to date, and insofar as the sugar pine area is concerned where the rust has not yet become so firmly established, to hold the rust through a continued effort to cut out infection centers as rapidly as they develop and to eradicate the ribes from the high hazard areas where these initial infections almost invariably occur.

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FOREST SERVICE "SMOKEJUMPER" TRAINING TO CONTINUE

Forest Service parachute crews, including the "smoke jumpers", who are flown in to fight remote forest fires, will be maintained on yearlong duty for training and for rescue work in the event of airplane crashes or other accidents in remote back country areas of the continental United States, the U. S. Department of Agriculture said this month. The "smoke jumper" work is being continued at the request of the Army, although the season of greatest fire danger has ended in the forests of the Northern Rockies and the Pacific Northwest.

The pioneer training center for Forest Service parachute firefighters at Seeley Lake near Missoula, Montana, has become a center for trainees in aerial rescue. At this center, representatives of Canadian Pacific Airways and U. S. Coast Guard rescue crews from Alaska have been receiving the training given Forest Service parachute firefighters. U. S. Army medical officers also have been assigned to the center for training in parachute work.

Canadian authorities also asked the Forest Service to train a number of representatives from the Aeronautics Observation School at Edmonton, Alberta, as instructors. This British Empire institution supplies men for rescue work in the Canadian wilds. The Canadian trainees will give a similar course of training to their co-workers upon returning to Canada.

After training, the Coast Guardsmen will be stationed near wilderness areas along the Alaska coastline, for rescue work following airplane crashes or other accidents.

Miraculous rescues have been accomplished by difficult overland treks to the scenes of crashes, but it is believed that more lives can be saved by parachuting trained rescue personnel directly to the point where a plane has crashed. As part of their training in parachuting and in working alone in remote country, the Coast Guardsmen at Seeley Lake have responded to forest fire calls and have jumped to fight fires.

Training at the Forest Service school includes special physical training and exercises to develop facility in traveling mountainous terrain. Practice jumps in full equipment are made from high scaffolds into lifesaver nets to accustom the parachuter to the sudden jerk of the shroud lines and harness, and to train him, also, to fall so as to avoid broken ankles and other physical injuries.

Forest Service parachute crews this year were made up largely of conscientious objectors who have volunteered for the work. In helping to control forest fires in inaccessible mountainous country, these men have performed valuable service. Lightning blazes occurring far from roads and other means of quick travel frequently can become unmanageable before firefighters can reach them on foot. Many fires have been suppressed by the "smoke jumpers" at a fraction of the cost of control by ground crews.

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Son: Pop, I got a lickin' in school today, and it's your fault.

Pop: How so?

Son: Remember when I asked you how much a million dollars was? Well "a helluva lot" ain't the answer!--The Old Line Acorn.

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BURNING GRAZING LAND

Close upon the heels of fire season several interesting observations have been made in Madera County on the effect of last summer's fires on foothill type grazing land.

It has been noted that on areas burned off early in the summer--May, June and the first of July--the new grass is very slow to start. Also noted is prevalence of noxious weeds starting in these areas. The grass in the burns is sparse and very short.

Undoubtedly the grass seed was burned before it matured and disseminated. Thus the majority of the potential grass crop was ruined, while the hardier weed seeds persisted and promptly germinated. It probably will be several years before a normal crop of grass is again available.

On range land not burned, the new grass crop seems far advanced over the early season burned areas. The unburned grass seeds allowed to disseminate naturally produced a normal grass crop.

Range land burned just before the close of fire season in November, which, by the way burned quite hotly, has the heaviest and most advanced crop of grass so far. Could it be that old grass burned off after the seed had fallen gave the new grass an added push? More sun on the new grass may have aided its growth, too.

It is entirely possible the above observations apply only to Madera County and not to other sections of the State. This point is open to discussion.

It would seem most advantageous to protect these range lands from fire for at least two, if not more, reasons. First, protection of feed for livestock; second, the long range viewpoint of the encroachment of weeds into pure grass type areas. Illustrating this are the tarweed areas so prevalent in the lower Sierra region.--ARNOLD F. WALLEN, Assistant State Forest Ranger.

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SID ORMSBEE AWARDED OAK LEAF CLUSTERS

Two oak leaf clusters, indicating second and third awards of the same decoration, have been posthumously awarded to First Lieutenant Sidney C. Ormsbee, Air Corps, for exceptionally meritorious achievement while participating in aerial flight against the enemy, the War Department announced this month. The award will be made to Horatio N. Ormsbee of Capitola, the lieutenant's father.

Ormsbee, former Assistant Ranger of the Division of Forestry, was killed in action last fall while fighting in the European theater of war.

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BRAD WILLIAMS WRITES FROM ENGLAND

The following letter was received by State Forester M. B. Pratt this month from former Assistant Ranger of Tehama County, Sergeant Bradford R. Williams, now "somewhere in England".

"Hi Folks:

This letter has been quite some time getting into production. It was originally intended to be a Xmas greeting, but Xmas seems to have come and gone so let's make it the best for the New Year. I am unable to write much of interest in the way of news, but will have quite a few tales to tell when it's all over.

I have seen some of the results of the blitz and it's very easy to understand why our side has no compunction about obliterating German cities. The targets of one Sunday raid in one of the larger cities here were apparently the churches. All the bombs fell on, or near, churches.

Must close, now, but will try to drop you a line from time to time. Would enjoy hearing from some of you.

As ever,

BRAD WILLIAMS"
(Sgt. Bradford R. Williams
19142422
178th Sig. Rep. Co.
APO 230, c/o Postmaster
New York, N. Y.)

. . . .

CAN YOU BEAT THESE?

Tellers of tall tales are wont to add just a bit with each telling, but here in California we can boast about our big trees without bolstering the boasting with an extra foot or so.

An incense cedar (Libocedrus decurrens) in the Trinity district of the Shasta National Forest has a circumference of 26 feet 4 inches, according to Ranger Alvin E. Noren of the Modoc National Forest. Another incense cedar near Morgan Springs, Tehama County, was reported as having a diameter at breast height (measured 4½ feet above ground) of 8 feet, which means a circumference of 25 feet. It is credited with a height of 120 feet and a volume of 9700 board feet.

McCubbin Manna Gum (Eucalyptus viminalis), growing in Tulare County between Reedley and Dinuba, was planted in 1889 by J. C. McCubbin, who has kept consistent records of its growth. At 45 years of age it was 22 feet in circumference at breast height and between 125 and 150 feet tall.

According to latest reports, General Sherman Big tree (Sequoia washingtoniana), Sequoia National Park, has a diameter of 36½ feet or a circumference of nearly 115 feet; a height of 272.4 feet; a volume of 600,120 board feet, and it is between 3,000 and 4,000 years old.

During the fall of 1934 a windstorm felled one of Yosemite's big trees, estimated to have been nearly 2,000 years old and mighty, even in overthrow. This old sequoia was widely known as the Stable Tree because of a great burned-out place in its base in which horses were stabled in stage-coach days. It was 92½ feet in circumference at its base and 269 feet high; these measures show it to have been a rival of the Grizzly Giant, which has a height of from 200 to 209 feet and a circumference of approximately 65 feet at about 10 feet.

A redwood (Sequoia sempervirens) in the Humboldt State Redwood Park near Dyerville, Humboldt County, is said to be the tallest tree known. It is 364 feet high and has been dedicated to the founders of the Save-the-Redwoods League. It is called the Founders Tree. --U. S. Dept. of Agriculture.

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A narrow-minded person is one that hasn't brains enough to know that you're right and he's wrong.--Old Line Acorn.

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California Department of Natural Resources
DIVISION OF FORESTRY

Warren T. Hannum
Director

Sacramento

M. B. Pratt
State Forester

Estelle J. Baxter, Editor

VOL. 3, NO. 5 NEWS LETTER MARCH, 1944

NATURAL RESOURCES WELCOMES NEW CHIEF

Recently retired from a long career in the Army, Brig. Gen Warren Thomas Hannum was appointed Director of Natural Resources by Governor Earl Warren on February 7, 1944.

General Hannum has been division engineer in the Army Corps of Engineers since 1938, with jurisdiction over California and the other western states. Since 1941 he has been in charge of military construction for the Army Air Corps and since 1942 has supervised all Army construction in this division.

During World War I he organized two divisions and went to France in the spring of 1918, serving as a member of General Pershing's general staff. His decorations include the Distinguished Service Medal, and just prior to his retirement February 2 he was awarded the Legion of Merit in recognition of his administrative work during the present war. He is a graduate of West Point.

General Hannum knows all the physical characteristics of California. He has been in charge of rivers and harbors construction and is thoroughly familiar with the Central Valleys Project.

General Hannum replaced William H. Moore of the Department of Finance, as Director of Natural Resources.

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WAR PRISONERS TO EASE LUMBER MANPOWER SHORTAGE

Employment of prisoners of war in the production of saw-logs and lumber has been approved by the War Department in a new ruling just published. Heretofore, use of prisoners in the forest industries has been confined to pulpwood logging. This announcement is declared by Wilson Compton, secretary-manager of the National Lumber Manufacturers Association, to be an important step toward breaking the manpower bottleneck which for nearly two years has hampered production of urgently needed forest products.

The United States Employment Service is handling preliminary arrangements with companies seeking to employ prisoner crews. Where there is no prison camp in the particular locality, it will be necessary for employers to provide suitable camp facilities. It is only required that the employer furnish the physical facilities, as

guards are provided by the Army. Such camps will be approved only for groups of not less than 200 men.

A company employing prisoners will pay the War Department for their services on the basis of a wage rate approved by the U. S. Employment Service, which rate is fixed at the current rate paid other men doing similar work. Insofar as possible, the compensation will be set on a piece-work basis. The prisoners, in turn, are paid by the Army.

Prisoners must be given preliminary training in the use of tools and equipment and in safety methods, and may not be used in certain hazardous activities such as handling explosives, high climbing, rigging, and aerial cable operations; swamp logging, stream driving, booming, or other operations which present a hazard of drowning or of wet clothing dangerous to health; top felling or felling from platforms more than two feet high; felling or bucking on excessively steep slopes; power skidding and loading; broadcast slash burning (although burning of piled slash is permitted under proper supervision); power machine operations including feeding saws, planers, and other machines in mills. All prisoners are to be excluded from the woods during periods of critical fire hazard.

Camp commanders will select only those prisoners who are physically fit for this work and who are qualified by civilian occupation and training or by special preliminary training. They may further limit the use of prisoners in areas where special conditions present hazards to their safety or to the military security of the area.

The U. S. Forest Service will cooperate with the Army in training prisoners and will also assist individual private operators. Illustrated instructions in woods work with German and Italian translations and pamphlets giving simple sentences and common words in those languages have been prepared to assist in the training program. Copies of this material may be procured from regional foresters of the U. S. Forest Service or from the offices of the National Lumber Manufacturers Association, 1319 18th Street, N. W., Washington 6, D. C.

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Much gas is needed for the forces,
The rest of us use feet and horses.

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CHRISTMAS TREE SITUATION TO BE PROBED

At the recent Law Enforcement Officers' Meeting held in Sacramento, George L. Fraser of the U. S. Forest Service and J. D. Rafferty, District 4 investigator of the Division of Forestry, were appointed to investigate the existing Christmas tree situation and report their findings to the State Forester, together with proposed new legislation to alleviate the present situation.

The investigators were unanimous in their opinion that the present law, 384A, is unworkable, and that legislation is needed to organize this field in the interests of good forestry.

A version of the Minnesota law was discussed, whereby every commercial cutter would be required to obtain a State license at a minimum cost of $50, permitting him to cut up to 1000 trees. All trees above this amount would require an additional payment of 2 or 3 cents a tree. A tag would be furnished the cutter to place on each tree, identifying it as a legal tree cut according to good forestry practice from source to consumer.

It was felt that the necessity of obtaining such a license would tend to discourage many opportunists who enter the field yearly, flooding the market with unsalable trees, as well as giving the Division of Forestry and counties a source of income to enforce the laws pertaining to this industry. One investigator pointed out he had been informed by officials that more than six million dollars were expended in California last year for the purchase of Christmas trees.

In connection with this assignment, Rafferty would appreciate suggestions from readers of the NEWS LETTER, particularly concerning the problem facing those members who enforce Section 384A as it pertains to evergreens and red berries. It might be advisable to include this phase of the Yule industry in any recommendations to the State Forester.

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Get out the spade and plant a tree;
Grow future corks for you and me.

. . . . . .

FOR SALE --BARGAIN!

One hay-wire sawmill, nice new location,
Ten-mile haul to the shipping station.
Half-mile of plank road, rest of it mud.
Six bridges, all condemned, but otherwise good.
Timber, yellow pine, very few knots;
Awfully sound between rotten spots.
Firebox, boiler, flues leak some;
Injector patched with chewin' gum.
Darned good whistle and carriage track.
Nine feet left of old smoke stack;
Belt's a little ragged, rats ate the laces,
Head-saw is cracked in a couple of places.
The engine knocks and is loose on its base,
And the fly wheel's broke in just one place.

There's a pile of side lumber and a few cull ties,
And they've been attached by some creditor guys.
There's a mortgage on the land that's now past due,
And I still owe for the machinery, too.
But if you want to get rich, here's the place to begin,
For it's a darned good layout--for the shape it's in!

--Anonymous

(Editor's Note: We are reliably informed that inspiration for the above gem came from the "retired" sawmill of State Forest Ranger Graves)

. . . . . .

Take axe and saw and lend a hand
For lumber's needed throughout the land.

. . . . . .

SONOMAN LEFT FOR DEAD ON ANZIO FRONT IS DECORATED

By Edward Kennedy

(From the Sacramento Bee, Feb. 26, 1943)

ON THE ANZIO BEACHHEAD, Feb. 23--(Delayed)--AP--A young California officer who was left for dead on the battlefield a week ago was decorated today with the distinguished service cross by Lieutenant General Mark Clark.

First Lieutenant Donald E. Knowlton was honored by the 5th Army commander as he lay in a field hospital bandaged, but very much alive. His wife and child live at 625 Humboldt Street, Santa Rosa, Calif.

On February 16 Knowlton was supervising artillery fire from an outpost in the Carroceto area when the Germans overran his position with tanks and guns. Although withdrawal was ordered, Knowlton and three soldiers remained to adjust artillery fire on the advancing enemy. He and the troopers held the Germans off with their carbines and directed cannon fire at the same time.

The lieutenant finally was laid low by a bullet in the neck. His soldiers gave him first aid but were unable to restore him to consciousness and believed him dead. They left him there when they received a signal from another officer to retire.

A medical corps officer, Captain Leon Fill of Detroit, former resident physician of St. Joseph's Mercy Hospital and a friend of Knowlton, later tried to reach the post.

He was unable to get there. Yesterday Captain Fill got shell splinters in his back and was in the same hospital tent with Knowlton for today's ceremony.

No one knows who picked up Knowlton, but he eventually got to the hospital, where his condition is good, in spite of the seriousness of his wound. He shook hands and thanked the general.

The citation stated the fire directed by Knowlton broke up an enemy thrust. Each of the soldiers with Knowlton killed two Germans and were present to see their commander decorated. They are Sergeant Kaline M. Bayouth of Collinsville, Oklahoma; Corporal Harold Green of Savannah, Georgia, and Private Harold Perkins of McAlester, Oklahoma.

Clark toured the front on his visit to the beachhead and conferred with divisional commanders. He reaffirmed his confidence in the situation.

(Editor's Note: Knowlton worked for the State Division of Forestry as a Dispatcher from May, 1939 to April, 1941.)

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Who cares that we don't have meat pies--
We're glad to share with brave allies.

. . . . . .

EXCLUSIVE

Ranger LeRoy Neil of Fresno County is perhaps the most exclusive Ranger in the State and his home life is the acme of privacy. Roy is never bothered by the Fuller Brush Man or the boy working his way through college.

When one calls on Roy it is a very simple procedure. You are met at the gate of his "estate" by a chap with a .45 tied around his waist, who interrogates you. Should you meet all the requirements, you are taken to a little office, fingerprinted, photographed and given a form to fill out that makes the income tax blank look like child's play. Then, and only then, providing, of course, you haven't collapsed from prostration, you are allowed to call on the Neil's.

Did we imply Roy was an inhabitant of one of our penal institutions? Oh no, he just resides in the center of a large military encampment near Fresno. Roy says his latch string is always out--he can afford to take the chance with this protection!

. . . . .

The guy we very much admire
Prevents and fights destructive fire.

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TREE FARMS

At a recent annual meeting of the Western Forestry and Conservation Association in Portland, one of the principal topics of discussion was tree farms. In "Paul Bunyan's Quiz", a publication issued by the American Forest Products Industries, Inc., a "tree farm" is defined:

> "A term used to designate a forest area formally dedicated by the private forest industries and other forest owners to the continuous production of forest crops, which is protected from fire and harvested in such a manner as will maintain economic and social benefits to the community at large. An area is eligible for the designation, 'Tree Farm', when the owner pledges himself to meet specified standards of forest management. The designation, 'tree farm', applies to private lands."

In this connection this publication states there are more than 8 million acres of forest and woodlands that have been formally designated as "tree farms" and that these range from farm woodlands of ten acres to individual operations of 500,000 acres and over.

A number of tree farms have been established in the Pacific Coast states. At present the only one in California is at Collins Almanor Forest, Almanor, Plumas County, covering 70,000 acres, containing one billion board feet of timber. It is expected that other tree farms will be established in California in the near future.

In Oregon the largest tree farm in the world was dedicated by Governor Snell on August 5, 1943. This farm, owned by the Weyerhaeuser Timber Company, contains 506,000 acres of forest land. This will be managed so that continuous timber crops will be grown.

The "tree farm" movement is a far cry from 25 to 30 years' ago when the policy of many lumbermen was to cut out and get out. Little regard was paid to the condition of their cut-over lands since it was not thought it would be profitable to keep them productive.

At the Portland meeting statements were made that on some of the tree farms in Oregon as high as 25¢ an acre a year was spent by their owners for fire protection purposes. This far exceeds the expenditures made by the Federal government in the States on such lands and signifies the sincerity of the lumber industries in their attempts to perpetuate their timber resources without Government regulation.

Tree farms are the best omen that has appeared on the forestry horizon for many years.

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We'll help the rangers in the mountains
Protect the source of drinking fountains.

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DIVISION OF FORESTRY OFFICES HAVE BECOME MIGHTY OAK TODAY FROM TINY ACORN 21 YEARS AGO

(From the Grass Valley Union)

It was a day in August and blistering hot. State Forest Ranger William Sharp, his face streaked with sweat, banged up the phone receiver. Another fire call. With practiced hand he grabbed for a back pump and sang out an automatic "Come on, boys!" In the two jumps to the door he tripped over a shovel. "Some day," he sighed, "I hope we have a place big enough to turn around in."

That was back in '23 or '24 when the Division of Forestry of the State of California tucked its fire equipment offices away in whatever available quarter existed. That was before this important segment of the State's Department of Natural Resources became "big business".

State Forest Ranger Bill Sharp had his wish, of "a place big enough to turn around in".

His original "rolling equipment"--a red Model T Ford, festooned with rakes, shovels, water bags, is an echo of another age, compared with the sleek-lined fire trucks, pumper equipped, standing in even row in their long garage, while the latest-added piece of equipment, a huge 10-ton truck, stands aloof in its magnitude of size.

About the only thing that hasn't changed much in the two decades is Bill Sharp, himself--hair a little thinner, perhaps, but he's actively nimble as in the days when his "fire house" consisted of a tiny office on Commercial Street, where a man with a good arm spread could about reach from wall to wall.

There's a lot of smoke gone rolling skyward since that day 21 years ago when Ranger Sharp took his firefighting job. There has been a lot of fires, big ones and little ones, licked to a standstill by the man who could do a 48-hour hitch, eat a hearty breakfast, then do 48 more.

When the State laid out the site for an "unemployment camp" on the north slope of Town Talk at the time of the depression, it was never dreamed that this well landscaped spot, with its several buildings, would become the picturesque location of the Sacramento County district of the State Division of Forestry. About seven years ago, when the camp had outlived its depression usefulness the Forestry group stepped in.

Today, save for a very few of the original buildings and the excellent terracing and landscaping of artfully placed shrubs and trees, there is little reminder of the depression center that once existed. Today, Ranger Sharp and his crew have elbow room aplenty in the six acres of pine-dotted hillside the firefighting unit occupies. There are at least a dozen buildings of varied sizes. As it stands it is the envy of the five other districts comprised in the State's Division of Forestry centers.

Save for a modest rustic sign marking the road turn off one-half mile north of Town Talk at the forks of the Nevada City-Grass Valley highway and the "Ridge Road", there is little to indicate the expansiveness of the State Forestry holdings nestled within the pines but a stone's throw from the road.

The main buildings include the office, spacious in its appointments and affording plenty of room for the filing cases, phones, communication radio and sundry equipment handled by Ranger Sharp and Chief Dispatcher Robert E. Carr. A second room, opening directly from the main office, offers sleeping quarters for those engaged in 'round the clock shifts.

Directly opposite the office stands the kitchen and messhall, where 50 men can, and have dined, on vittles excellently and abundantly prepared by Mrs. Alida Carnes, who has ruled the local Forestry kitchen since last summer.

Arranged for handy access, the garage with its all-important equipment, maintains central location. This unit also serves as workshop for Forestry mechanics, who keep equipment in apple-pie order at all times. A concrete apron adjoining the garage serves as a wash and lubrication rack, and soon will be flanked by a gasoline pump for fueling equipment.

From these three main buildings access to other structures--ranging from warehouses to shelter houses, is but a matter of a few steps. The big warehouse, orderly crammed with a complete inventory of firefighting equipment--everything from sleeping bags to hand lamps. Everything is neatly in place. A truck can be fully manned, equipped with food and equipment, in less than five minutes' time. During the feverish days of summer the seven trucks stand ready at all times while a big bulldozer, God-send in clearing fire trails through brush land, is ready to be hoisted aboard its big 10-ton truck carrier and whisked away.

One very interesting piece of individual firefighting equipment--a combination rake and hoe--was developed by a State Division man, Assistant Fire Chief Earl Barron of Sacramento. This has become a piece of regulation equipment throughout the State.

California is divided into six big division districts with the Sacramento district, including Nevada County, as one of the larger and more important segments. The Sacramento district extends from the northern border of Sierra County west to the farthest border of Colusa County, south to Stanislaus and east along the Mariposa line. It's a big territory and a valuable territory, with heavy wooded areas. For most cooperative results Nevada, Placer and Yuba counties form an inter-district unit, with access of equipment and facilities.

The State Division of Forestry, with M. B. Pratt as State Forester, has been declared an organization of complete coordination with federal, county and city bodies of like nature. If there is a fire in U. S. Forest Service territory and the State Division receives a call, it's on its way, immediately. And the U. S. Forest Service reciprocates in turn. If county or city fire departments are confronted with a blaze problem, the State Division turns to in neighborly fashion.

Zealous for home industry, every effort is made by State Division quarters to purchase all supplies possible from local outlets.Needless to state, the Division's payroll, on an average of fifty employees for seven months during the fire-threat season, is recognized as a real asset by the communities which benefit.

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CORK OAKS DISTRIBUTED

Hundreds of cork oaks have been distributed to schools in Tulare County by State Forest Ranger Bill Pennington and members of the Sequoia National Forest. To each school went a letter to be read at the tree planting exercises during Conservation Week, pointing out the necessity for conservation and prevention of fires.

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TRANSFERS:

State Forest Rangers

Charles Campbell from Madera to Mendocino County
Arthur Moberg from Mariposa to Madera County
Bruce Hufford from Mendocino to Mariposa County
LeRoy Neil from Sonoma to Fresno County
E. A. Joy from Fresno to Sonoma County

Associate Rangers

W. F. Mann from Yuba County to District 3 headquarters

Assistant Rangers

Hubert S. Mund from Santa Cruz to Fresno County
Travis Mitchell temporarily in charge of Yuba County
Frank Weatherford from Monterey to San Bernardino County

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ADDITIONS TO THE FORESTRY FAMILY:

Mary Caroline Pewtherer first saw the light of day on February 8. Her proud pa, Mace, will no doubt greet the first light of many a day from now on, what with the very young moppets all agreeing that dawn is an excellent time to start the day off right.

And Assistant Ranger William Ensbury was handing out cigars during January in celebration of the arrival of a son.

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To Victory garden add some chickens
For breakfast eggs and luncheon "pickins".

. . . . .

The couplets came from Woodbridge's pen
Who for conservation has a great yen.

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California Department of Natural Resources
DIVISION OF FORESTRY

Warren T. Hanmum
Director

Sacramento

M. B. Pratt
State Forester

Estelle J. Baxter, Editor

VOL. 3, NO. 10 NEWS LETTER August, 1944

REDWOOD FORESTRY

A Review by M. B. Pratt, State Forester

In the June issue of AMERICAN FORESTS is an article by Stewart M. Snyder, Forester for the Joy Woods, located near Bodega, Sonoma County. Snyder is a graduate of the Department of Forestry, University of California, and has the distinction of being in charge of the first coast redwood forest (Sequoia sempervirens) in California to be placed under intensive management.

In this connection it is interesting to note that Whitaker's Forest, Tulare County, which belongs to the University of California, was the first Sierra redwood (Sequoia gigantea) forest to be placed under forest management. This was done by Professor Woodbridge Metcalf, Extension Forester, University Extension Service.

Joy Woods, comprising 1000 acres, is owned by Anita D. Laton of Berkeley, California, a granddaughter of Ben and Elizabeth Joy, who purchased the tract in 1862. The original owners acquired it in 1847 and used it as a stock range. Later, redwood split products were taken from it and from 1854 to 1862 timber was cut by a small circular mill, the logs being taken to the mill by oxen.

In the earlier logging, no attention was paid to the continuity of operation as carried on at present. The best trees were taken and rarely were more than two or three logs taken from a tree. Small trees were left because of the low grade of lumber they produced, which lead to an unconscious selective cutting by the early operators. This left a stand in fine condition for the forest practices that are now taking place.

The stand is comprised of redwood and Douglas fir with a heavy understory of tan bark oak on the wooded area of 800 acres. About 200 acres are natural grass land pasture, fenced for rotation grazing.

Part of the Joy management policy is to eliminate the "wolf" trees so they can be replaced by thrifty trees. There are about 300 acres of virgin timber on this area from which 500,000 board feet is being logged each year. No trees are cut for saw logs that are not at least 28" in diameter at 20 feet above the ground. Trees under 28" are considered too small to be handled economically.

Cull sawlogs are worked up into split products. Shakes and grape stakes are made from straight grain logs and posts from the next grade. Tan oak trees are peeled and the bark, after being dried, is utilized in the tanning of leather. The wood is cut in fuel wood lengths and sold locally. All tank oak cut is second growth, probably the only case of utilization of second growth California tan oak. Growth studies suggest the possibility of putting tan oak cutting on a 35 or 40-year rotation.

Redwood piling and cribbing are taken from second growth stands, the most thrifty stock being left. Tops and long butts are worked into pulpwood, stepping blocks, hop stick material, and Christmas tree bases. Auxiliary products are redwood poles, redwood or huckleberry greens, ferns, burls, mossy logs, and rocks, old weathered and mossy rail fencing, and Christmas trees. All of these products help in complete utilization of the forest and contribute considerably to its income.

Joy Woods has been certified by the National Lumber Manufacturer's Association as the first forest in the redwood region to become a Tree Farm. This was because of the policy adopted to manage the forest in such a way as to bring in a continuous revenue and at the same time maintain its full productivity.

In the article credit is given to various agencies that have rendered assistance in making Joy Woods a success. It is stated that the State Division of Forestry has given aid in trail and fire break construction and slash burning and has loaned fire equipment when needed. Such projects deserve our fullest support. State Division of Forestry officials can well look at Joy Woods as an example of a way to manage the State Forests which we expect to have ere many years elapse.

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The purchasing agent had died and gone to the place where some P. A.'s must inevitably go. He glanced around, picked a comfortable looking griddle and had just relaxed on it with a sigh when a hand grabbed the front of his nightgown and jerked him to his feet. Before him stood the salesman who had so often called on him on earth.

"Hello, Mr. Drubble," said the salesman. "I'm here for that appointment."

"What appointment?"

"Forgotten so soon?" asked the salesman sweetly. "Everytime I called on you on earth, you told me you'd see me here!" -- ALLIED NEWS.

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PIGMY FOREST FOUND NEAR FORT BRAGG

A pigmy forest, only one of its kind in the world, is found near Fort Bragg, California, according to Dr. Herbert L. Mason, professor of botany on the Berkeley campus of the University of California. Two species of evergreens, a cypress, Cupresses pygmaea, and a Pinus, Bolanderi, are both dwarfed by the acid soil of the pine barrens. Mature individuals of the cypress are frequently only nine to ten inches high and bear miniature cones. When these species are transplanted and given adequate water and soil they are no longer dwarfed but may become very large.

The area containing the forest of tiny trees is three miles wide and twelve miles long. It is also one of the show spots of California because of its numerous rhododendrons and azaleas and is one of the few places in the state where a true sphagnum bog may be found. A visitor to this district may likewise see the sundew plants which trap insects, catching them by means of a sticky honey and spiney leaves, Dr. Mason said.

The pigmy forest is on the edge of a State Park which should be extended to include more of it. However vacation cabins are beginning to appear in the vicinity and soon another of California's natural wonders will be lost to posterity, he pointed out.

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A family with a summer cottage in a Wisconsin wilderness habitually paid the requested price of 50 cents to an Indian for a milk pail brim full of blueberries. But one day last summer he suddenly grunted in protest and upped the price to a dollar.

"Why?" they asked in amazement.

"Heck of a big war some place," was his laconic reply.--EXCAVATING ENGINEER.

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BLACK'S MOUNTAIN EXPERIEMENTAL FORRST

About fifty miles northwest of Susanville, Lassen County, is an area known as Black's Mountain Experimental Forest, which is under the supervision of the Forest and Range Experiment Station located at the University of California. This experimental forest which was established in 1937 comprises 10,252 acres most of which is government land and contains approximately 165,000,000 board feet of timber, the greater part of which is Ponderosa and Jeffrey pine. It is estimated that the average volume per acre is from 18 to 20 thousand board feet.

At Hall's Flat, which lies in this area, headquarters have been established with A. A. Hazel in charge. He conducts a wide range of experiments on this forest to determine the practicability of sustained yield on privately owned land of the character found on this forest and to arrive at the minimum requirements that must be met to protect the public interest on such private land.

The forest is divided in compartments, all of which are easily accessible by road. Three types of cutting are made. The first cut is for salvage purposes, and it is confined to insect infested and deteriorating trees. The second cut which is often made at the same time as the first, releases the thrifty trees so they can make faster growth. The third cut is made at times of abundant seed crops in order to open up areas to obtain better reproduction.

When this area was visited by Benedict, Zaayer and State Forester Pratt on July 12, methods of logging were inspected. Logs are hauled to landings by tractors and taken by truck to a railroad siding where they are loaded on cars and taken to the Red River Mill, Westwood. The price paid by the company is $14.50 per thousand FOB cars. A portion of the revenue derived from the sale of logs goes into the U. S. Treasury and the balance is placed in a cooperative fund to finance the expense of the station. It was stated the cut will average about 10 million board feet per year. Logging is carried on by a crew of thirty men from April to November, depending on the season.

Throughout the area are sample plots on which records are kept from year to year on growth, reproduction, results of different types of cutting, and many other forestry practices. This is the only experimental forest of its kind in California, and the studies made there should provide valuable data for the use of private owners as well as aid the Forest Service in its management of timber sales on National Forests, especially as regards brush disposal on the east side of the Sierra. --M. B. PRATT, State Forester.

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Sailor: "Yes, ma'am. That's a man-o'-war."

Lady: "Indeed. And what's the little ship just in front?"

Sailor: "Oh, that's just a tug."

Lady: "Oh yes, of course. A tug-of-war. I've often heard of them."--EXCAVATING ENGINEER.

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THERE'S BLISTER RUST IN THEM THAR HILLS

The Argonauts of the Days of '49, who struck gold in "them thar hills", would turn over in their graves if they knew that school boys are now going through their old gold diggings up-rooting currant and gooseberry bushes, hosts of the white pine blister rust.

Yet this is now going on in the vicinity of Poker Flat, Brandy City, Port Wine, Holland Flat, and Scales, places immortalized by Bret Harte.

This work is under the general direction of Warren Benedict, in charge of blister rust control for California and Oregon. His scouts have found blister rust in sugar pine trees and on currants and gooseberry bushes in these hills, which more than 90 years' ago were thought most valuable for the nuggets they produced.

From July 10 through the 12th, Benedict, Zaayer (Forest Engineer of the Western Pine Association) and State Forester Pratt visited seven of the blister rust control camps operated by the Federal Bureau of Entomology and Plant Quarantine. The purpose of the trip was to see first hand the working procedure and how the job was proceeding and to obtain an "on the job" slant as to its effectiveness. In this connection the State of California has allocated $100,000 for the present biennium to assist in carrying out this work on private lands.

The seven camps visited were in an area of splendid sugar pine in Yuba, Plumas, Butte and Placer counties, largely in private ownership. The names of these camps are reminiscent of early mining days, especially American House, an old stage station not far from La Porte; Scales, where there is a large hydraulic pit from which millions of dollars worth of gold were taken; and Rag Dump, where it is reported a tattered mining camp once stood, or perhaps where a lot of tattered clothing was spread out in the sun to dry.

The work being done by these camps consists of removal of currant and gooseberry bushes, commonly known as ribes. Work is being concentrated along streams and other places where conditions for blister rust development are best.

It has been found that the moist sites along streams, borders of meadows and other openings in the forest not only harbor the largest number of ribes bushes, but represent the most favorable conditions for blister rust to become established and from which to intensify and expand. These high hazard rust sites constitute about 15 percent of the total pine acreage in Northern California.

The eradication of the ribes from these focal danger points provides a high degree of initial protection to the entire surrounding area in retarding rust build-up. This is particularly significant during the present period of restricted manpower, when complete coverage of pine lands over extensive areas cannot be undertaken.

Ultimately, however, the ribes bushes must be removed from all sugar pine lands. Much of the land worked over has been logged and on cut-over areas conditions are favorable for the production of ribes due to the stirring up of the soil incident to logging.

To get the best control results, these cut-over lands should be worked at least three years after logging and at such subsequent intervals thereafter to prevent the new ribes plants from producing seed. Normally three ribes eradication treatments at three-year intervals are required. The three-year spacing is based on the fact a young ribes plant begins to produce seed when it is three years old. To permanently suppress ribes no new seed must be allowed to form.

The southern extension of blister rust in sugar pine is found in this area. It was found on the smaller trees and all infections were cut out to delay expansion of the rust. It is recognized that the spread of the rust cannot be stopped, but its virulence can be reduced to the point of rendering it innocuous as a hazard to pine by the timely removal of the ribes host plant.

Last year 64,000 acres were worked by the crews, an average of 1.2 acres per man day. During 1943 25% of the potential man-days of the short summer work season were lost due to the crews being called out to fight fires. The state paid out approximately $24,000 last season for the services rendered by these crews on state fires. This amount did not go into the Federal Treasury but was credited to the Bureau of Entomology where it was used to establish more camps this year.

It is evident the battle against blister rust will have to be waged for many years to come on the basis of the present scope of the work and in view of the extensive volume of logging that sets up conditions for many new ribes bushes to be established. It is interesting to note that experiments are being made with chemicals for the killing of ribes but to date no effective method has been worked out for wide scale use although chemical treatment is used to advantage under restricted local conditions.

The battle against blister rust can and is being won through the destruction of the ribes host. The extent of the victory--acreage protected--will depend upon continued and vigorous prosecution of the job. It is a sound forest protection undertaking and one in which the State of California, along with the Federal Government, has a substantial interest.

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Doctor: "I can't find any cause for your complaint. I think it's due to drinking."

Patient: "Okay, I'll come back some time when you're sober."

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FOREST VETERAN FALLS, FOURTH IN 34 YEARS

Sequoia trees are noted for their extreme length of life and the tenacity with which they stand against the storms of a thousand or more winters. When they do fall, however, it is with an earth-shaking crash and commotion which befits their great size and kingly station among trees.

Woodbridge Metcalf, Agricultural Extension Service forester, of the University of California, reported the fall of one of the veterans of Whitaker's Forest, Tulare County. It was the fourth old Sequoia to fall in the 34 years since Horace Whitaker gave the 320-acre forest to the University.

"Several rifle-like reports, as century-old roots let go, foretold the fall of this forest monarch," Metcalf said. "Then, with a roar which echoed between surrounding hills, the great trunk, taller than a 16-story building, came down."

The trunk measured more than eight feet in diameter and the tree was 250 feet in length. It will be worked into split fence posts during the summer and fall and should yield about 4,000 posts, plus half as many grape stakes, Metcalf said.

He estimated that at the rate the forest veterans are falling, only one every seven years, it will be 1750 years before the last of them crashes to earth and, he said, seedlings now starting will then be as big as the biggest trees now standing.

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"So this woman shot her husband at close range with this pistol?" the coroner asked the eye-witness to the colored tragedy.

"Yessuh."

"Are there powder marks on the body?"

"Yessuh. Dat's why she shot him."

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FORESTRY BOARD MEMBER McARTHUR SUCCUMBS

A heart attack, suffered upon his return from a week's inspection trip of redwood forests along the coast from Santa Cruz to Eureka, proved fatal to Rodney M. McArthur, member of the State Board of Forestry and one of Shasta County's largest individual ranch property owners. McArthur died August 6, leaving his wife, Anna V. McArthur, two sons and a daughter.

McArthur, who lived in the community bearing his name, was vitally interested in the lumber industry, both as the owner of timber lands, and in development of this natural resource into a major industry in his section of the State.

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Wood cellulose, chemically treated, can be changed into gunpowder, paper, rayon, felt, alcohol, photographic film, cellophane, imitation leather, lacquers, glycerine, sugar, plastics, molasses, yeast and food proteins.

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IT'S A GIRL

Herman P. Meyer , weather technician for the Division, has one advantage over most of the other new fathers--he won't have to tear his hair out over his young moppet's actions. But it's a cinch Mrs. Meyer is going to have a full-time job sewing the buttons back on his clothes, the way they're popping off with pride. Born August 3, young Miss Terry Meyer is already ruling with a firm hand, we're told.

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Almost five hundred years before Columbus, Vikings made regular trips to America to get timber for their sailing vessels.

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Ensign L. T. "Pete" Peterson, of the U. S. Navy, visited the office recently, resplendent in his uniform. He's now with the amphibious branch of the service.

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